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Abstract	This deliverable reports the quantitative data analysis from WP2. It displays descriptive statistics, analysis of variance and regression analysis for the three stakeholder groups in S4R: leaders, workers, and informal caregivers

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1. Executive summary

This document presents the initial cross-country data analysis conducted within the Support4Resilience (S4R) project. The analysis is based on survey data collected from elderly care stakeholders in six European countries, including healthcare workers, leaders, and informal caregivers. It provides descriptive and inferential insights into mental wellbeing, individual and organizational resilience, caregiving involvement, and related risk and protective factors.

The report outlines the analytical procedures applied, such as descriptive statistics, analysis of variance, and multiple linear regression modelling, in order to explore associations between demographic characteristics, caregiving contexts, and wellbeing outcomes. The findings highlight key patterns across countries and stakeholder groups, offering an evidence base for the design and tailoring of resilience interventions.

The primary purpose of this deliverable is to ensure that the project consortium has a consolidated overview of the empirical data, which will guide the subsequent development, testing, and evaluation of the S4R resilience toolbox.

Version History

Date	Version	Editors	Status
29.09.2025	1.0	Daniel Adrian Lungu	Initial draft circulated for comments.
13.10.2025	2.0	Daniel Adrian Lungu, Enna Alastalo, Paola Cantarelli, Georgia Kapitsaki, Andreas Chatzittofis	Revised and final draft.
20.10.2025	FINAL	Daniel Adrian Lungu, Enna Alastalo, Paola Cantarelli, Georgia Kapitsaki, Andreas Chatzittofis	Uploaded to the EU portal after WPCT approval on 16.10.2025.

2. Methodology

2.1 Study design and participants

This report draws on survey data collected within the Support4Resilience (S4R) project, which investigated the mental wellbeing, resilience, and work-related outcomes of key actors in elderly care across six European countries: Finland, Italy, the Netherlands, Norway, Romania, and Spain. In each country, participants included elderly care workers, leaders, and informal caregivers, recruited through the Support4Resilience consortium partners and collaborating organisations in the elderly care sector.

- Norway: Data were collected between by NTNU Gjøvik, primarily through professional networks and municipalities associated. The data collection was digital, and a part of informal caregivers was recruited through social media. The data was collected between November 2024 and June 2025.
- Finland: Participants were recruited by TUAS, using their network that includes municipal elderly care services. The data collection was digital, and a part of informal caregivers was recruited through social media. The data was collected between November 2024 and May 2025.
- Italy: Recruitment was managed by FCCM, using digital invitations to workers and leaders in their organization. Informal caregivers were recruited among the carers of patients admitted to one of their care facilities and surveyed digitally. The data was collected between November 2024 and March 2025.
- Romania: USV facilitated recruitment through the local teaching hospital. Key hospital staff was involved to distribute hard-copy questionnaires to hospital workers and leaders. Informal caregivers were approached by a research assistant in the waiting room while their loved ones were having a specialist visit at the hospital. Given the low digital literacy, the research assistant filled in a paper form and then inputted the data manually into the digital collection system. The data was collected between Octoebr 2024 and March 2025.
- Spain: Data collection was coordinated by UJI via their professional network. The data collection was fully digital. The data was collected in the period January-June 2025.
- The Netherlands: EUR collected data using online invitations. For healthcare workers and leaders they collaborated with two nursing home organisations, while informal caregivers were recruited mainly through social media channels. The data was collected between March and June 2025.

2.2 Measures

The questionnaire included a set of validated instruments, adapted to each group:
- Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS): A 7-item measure of mental wellbeing (score range 7–35, higher = better wellbeing).
- Connor-Davidson Resilience Scale (CD-RISC-10): A 10-item measure of individual resilience (score range 0–40, higher = greater resilience).

• Copenhagen Burnout Inventory (CBI): A 7-item scale used for healthcare workers and leaders to assess risk of burnout (score range 0–100, higher = greater burnout).

• Michigan Organizational Assessment Questionnaire (MOAQ): A 4-item scale measuring intention to leave one's job (score range 1–7, higher = stronger intention to leave).

• Resilience Capacity Scale (RCS): A 33-item instrument assessing organizational resilience across ten dimensions (score range 1–5, higher = stronger resilience).

• Family Involvement in Care Questionnaire (FICQ): Completed by informal caregivers to assess perceived family involvement in care planning (score range 1–4, lower = less involvement).

• Caregiver Strain Assessment Questionnaire (CSAQ): Completed by informal caregivers to indicate risk of burden (dichotomous outcome, risk of burden flagged).

• Self-Assessed Health (SAH): A single-item question where respondents rated their health on a 5-point scale (Poor to excellent).

In addition, the survey collected sociodemographic variables (age, gender, education, and country), as well as role-specific variables such as work experience for healthcare workers/leaders and caregiving experience and time commitment for informal caregivers.

2.3 Data preparation

Prior to analysis, data were checked for completeness and consistency. Missing values and "Other" responses in categorical variables such as gender and education were excluded from subgroup analyses (e.g., ANOVAs), to ensure comparability across groups. Where scale scores required aggregation, items were summed or averaged according to validated scoring protocols.

2.4 Statistical analyses

Analyses were conducted using R (RStudio version 2023.06.1). The analytical approach included the following steps:

1. Descriptive statistics: Means, standard deviations, and proportions were calculated to summarise demographic characteristics and scale scores across countries and groups. Results were tabulated and visualised using bar charts and boxplots.

2. Analysis of variance (ANOVA): One-way ANOVAs were used to examine differences in wellbeing, resilience, burnout, turnover intention, organisational resilience, family involvement, and caregiver burden across categorical variables such as country, gender, education, work experience, and caregiving time/experience. For significant main effects, post-hoc comparisons (Tukey's HSD) were conducted to identify specific group differences. Visualisations (boxplots with means indicated) were used to illustrate distributions. Given the sample size, ANOVA was only performed for healthcare workers and informal caregivers.

3. Multiple linear regression: To explore predictors of wellbeing and resilience, multiple regression analyses were performed separately for healthcare workers and informal caregivers. Independent variables included gender, education, experience, and caregiving

time, depending on group. Given the sample size, MLR was only performed for healthcare workers and informal caregivers.

Group differences were examined using one-way ANOVA, assuming approximately normal distributions. Given the large sample size and the robustness of ANOVA to moderate non-normality, this method was considered appropriate (1).
All tests were two-tailed with a significance level set at $p < .05$. Effect sizes and patterns of variability were considered alongside statistical significance to provide a more nuanced interpretation of findings. All analyses were performed in R.

3. Results

3.1 Descriptive statistics

3.1.1 Healthcare workers

Table 1. Healthcare workers Demographics

Variable	ES N = 231[1]	FI N = 150[1]	IT N = 231[1]	NL N = 199[1]	NO N = 177[1]	RO N = 256[1]
Age	45 (12)	41 (12)	48 (11)	46 (13)	40 (13)	46 (9)
Missing	6	12	22	9	15	2
Gender						
Female	216 (94%)	143 (95%)	193 (85%)	175 (88%)	157 (89%)	222 (88%)
Male	15 (6.5%)	6 (4.0%)	35 (15%)	23 (12%)	20 (11%)	30 (12%)
Other	0 (0%)	1 (0.7%)	0 (0%)	1 (0.5%)	0 (0%)	0 (0%)
Missing	0	0	3	0	0	4
Education						
None	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Primary school	10 (4.3%)	0 (0%)	48 (21%)	1 (0.5%)	7 (4.0%)	0 (0%)
Secondary school	19 (8.2%)	116 (77%)	79 (35%)	3 (1.5%)	72 (41%)	47 (19%)
Less than three years of higher education (university or similar)	99 (43%)	9 (6.0%)	38 (17%)	67 (34%)	22 (13%)	108 (43%)
Bachelor/ three years of higher education (university or similar)	81 (35%)	23 (15%)	37 (16%)	83 (42%)	72 (41%)	77 (30%)
Master's degree	21 (9.1%)	2 (1.3%)	26 (11%)	39 (20%)	3 (1.7%)	13 (5.1%)
PhD	1 (0.4%)	0 (0%)	0 (0%)	6 (3.0%)	0 (0%)	9 (3.5%)
Missing	0	0	3	0	1	2
Experience						
Less than 1 year	17 (7.4%)	2 (1.3%)	10 (4.4%)	3 (1.5%)	2 (1.1%)	8 (3.1%)
1-5 years	53 (23%)	38 (25%)	45 (20%)	38 (19%)	29 (16%)	36 (14%)
6-10 years	50 (22%)	31 (21%)	31 (14%)	37 (19%)	21 (12%)	43 (17%)
11-15 years	29 (13%)	38 (25%)	26 (11%)	21 (11%)	27 (15%)	28 (11%)
16-20 years	32 (14%)	14 (9.3%)	35 (15%)	24 (12%)	25 (14%)	43 (17%)
More than 20 years	50 (22%)	27 (18%)	82 (36%)	76 (38%)	73 (41%)	96 (38%)
Missing	0	0	2	0	0	2

[1] Mean (SD); n (%)

Table 1 presents the demographics of the healthcare workers participants. The mean age of the participants ranged between 40 and 48 years. The lowest mean age was observed in

Norway, whereas the highest was recorded in Italy. In all countries, the majority of participants were women, with more than 85% of the total sample being female.

There was substantial cross-national variation in participants' educational attainment. In Finland and Italy, the majority had completed secondary education, whereas in Norway this qualification was as prevalent as a bachelor's degree. In Romania and Spain, the most common category was "less than three years of higher education", while in the Netherlands the bachelor's degree was predominant. In Spain, the Netherlands, and Norway, more than 40% of participants reported having attained a bachelor's degree or higher. In the Netherlands, this proportion exceeded 65%, including 23% who had completed a master's or doctoral degree. The sharpest contrast was observed between Finland and the Netherlands: in Finland, 77% of participants reported only secondary education or less, compared with the Netherlands, where the vast majority held tertiary-level qualifications.

The amount of work experience also varied across countries and no single category was predominant in all of them. In Italy, Norway, Romania and the Netherlands, the largest proportion of participants had more than 20 years of experience, accounting for over 36% in each country. In Spain and Finland, participants' experience was more evenly distributed across the categories. In all countries, the smallest proportion of participants fell into the category of "Less than one year" of experience.

Table 2. Mean values of the survey scales (healthcare workers)

Variable	ES N = 231[1]	FI N = 150[1]	IT N = 231[1]	NL N = 199[1]	NO N = 177[1]	RO N = 256[1]
SWEMBWS score (Mental wellbeing)	26.2 (3.9)	25.6 (3.5)	26.3 (4.3)	27.9 (2.9)	26.3 (3.2)	29.3 (3.9)
CD-RISC score (Individual resilience)	30 (6)	28 (5)	27 (6)	29 (5)	29 (5)	32 (7)
CBI score (Burnout)	50 (22)	45 (20)	43 (22)	32 (13)	42 (19)	41 (22)
MOAQ score (Intention to turnover)	3.25 (1.78)	2.99 (1.59)	2.37 (1.44)	2.16 (1.30)	3.02 (1.73)	1.93 (1.26)
SAH (Self-assessed health)						
Poor	14 (6.1%)	33 (22%)	14 (6.1%)	0 (0%)	6 (3.4%)	2 (0.8%)
Fair	49 (21%)	64 (43%)	64 (28%)	21 (11%)	37 (21%)	57 (22%)
Good	102 (44%)	37 (25%)	91 (40%)	98 (49%)	53 (30%)	121 (48%)
Very good	46 (20%)	12 (8.0%)	54 (24%)	68 (34%)	64 (36%)	54 (21%)
Excellent	19 (8.3%)	4 (2.7%)	6 (2.6%)	12 (6.0%)	17 (9.6%)	20 (7.9%)

[1] Mean (SD); n (%)

In the questionnaire for participants in the healthcare workers category, the instruments included SWEMWBS, CD-RISC, CBI, MOAQ, and SAH. The country-specific mean scores for these instruments are presented in Table 2. The SWEMWBS (mental wellbeing) scale ranges from 7 to 35 points, with higher scores indicating greater mental wellbeing. Across all

countries, the mean SWEMWBS scores were above 25.6 (scale range 7–35), suggesting relatively high levels of mental wellbeing.

For the measure of individual resilience (CD-RISC) among healthcare workers, there was little variation between countries, with mean scores ranging from 27 to 32. The CD-RISC scale ranges from 0 to 40 points, with higher scores indicating greater individual resilience. These findings indicate that the mean scores were consistently above the average of the scale.

For healthcare workers, the CBI (burnout) scale ranges from 0 to 100 points, with higher scores indicating a greater risk of burnout. Among the country-specific means, the highest score was observed in Spain (mean = 50), whereas the lowest was recorded in the Netherlands (mean = 32). The mean scores of the other countries were relatively similar, ranging from 41 to 45 points.

The MOAQ instrument, which measures healthcare workers' intention to leave one's job or profession, produced varying mean scores across countries. In Table 2, MOAQ is reported as the mean of responses, with answer options ranging from 1 to 7. Higher scores indicate a greater likelihood of changing one's job or profession. The mean scores ranged from 1.93 to 3.25, with the lowest average observed in Romania and the highest in Spain, suggesting a stronger turnover intention among Spanish respondents.

Healthcare workers' self-assessed health status, measured by the SAH instrument, varied considerably across countries. In Finland, 65% of respondents rated their health as "Fair" or "Poor". The next highest proportion was observed in Italy, where 34.1% of respondents reported their health as "Fair" or worse. Thus, Finnish respondents assessed their health as substantially poorer compared with respondents in all other countries, where respondents' self-rated health was assessed more positively. In all countries except Norway and Finland, the most frequent response category was "Good", while in Norway the majority of respondents rated their health as "Very good". In the Netherlands and Norway, a larger proportion of respondents rated their health as "Very good" or "Excellent" compared with the other countries. In both countries, 40% or more of respondents reported their health in these categories, whereas in the other countries fewer than 29% assessed their health at this level.

Table 3. Mean values of RCS healthcare workers

Organisational resilience	ES N = 231[1]	FI N = 150[1]	IT N = 231[1]	NL N = 199[1]	NO N = 177[1]	RO N = 256[1]
Involvement	3.77 (0.94)	3.73 (0.75)	3.67 (0.81)	3.87 (0.75)	3.97 (0.66)	4.11 (0.72)
Alignment	3.60 (0.87)	3.48 (0.71)	3.69 (0.71)	3.60 (0.70)	3.64 (0.69)	4.06 (0.66)
Risk management	3.39 (0.92)	3.54 (0.74)	3.72 (0.72)	3.45 (0.74)	3.69 (0.74)	3.99 (0.72)
Competence	3.31 (0.92)	3.77 (0.70)	3.74 (0.72)	3.71 (0.76)	3.83 (0.65)	3.98 (0.69)
Leadership	3.41 (1.07)	3.52 (0.95)	3.65 (0.81)	3.57 (0.88)	3.64 (1.00)	3.66 (1.00)
Communication	3.38 (1.05)	3.57 (0.76)	3.67 (0.75)	3.30 (0.75)	3.56 (0.70)	3.77 (0.82)
Facilitators	3.28 (1.09)	3.49 (0.81)	3.56 (0.76)	3.83 (0.71)	3.85 (0.74)	3.79 (0.94)
Learning	3.06 (1.08)	3.31 (0.77)	3.57 (0.84)	3.52 (0.83)	3.43 (0.84)	3.89 (0.84)
Coordination	3.29 (0.98)	3.18 (0.70)	3.49 (0.83)	3.27 (0.69)	3.12 (0.74)	3.87 (0.74)
Structure	3.51 (0.91)	3.53 (0.67)	3.77 (0.73)	3.68 (0.63)	3.74 (0.71)	4.03 (0.72)

[1] Mean (SD)

The mean scores for organisational resilience among healthcare workers across countries were very similar, ranging from 3.06 to 4.11 across all dimensions. Most results fell between 3.06 and 3.99, with Romania showing the highest scores in nearly all categories. Notably, Romania was the only country to reach mean scores of 4.0, doing so in three categories (Involvement, Alignment, and Structure). No dimension scored below the neutral midpoint of the scale (1 = Strongly disagree, 3 = Neutral, 5 = Strongly agree). Overall, organisational resilience was generally perceived as neutral, but with a tendency towards the higher levels of the scale (Table 3).

3.1.2 Leaders

Table 4. Leaders Demographics

Variable	ES N = 51[T]	FI N = 14[T]	IT N = 57[T]	NL N = 35[T]	NO N = 35[T]	RO N = 34[T]
Age	42 (10)	49 (8)	48 (10)	50 (12)	44 (9)	51 (10)
Missing	2	0	1	1	3	0
Gender						
Female	44 (86%)	14 (100%)	38 (67%)	32 (91%)	31 (89%)	24 (71%)
Male	7 (14%)	0 (0%)	19 (33%)	3 (8.6%)	4 (11%)	10 (29%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Education						
None	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Primary school	1 (2.0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Secondary school	1 (2.0%)	2 (14%)	6 (11%)	0 (0%)	0 (0%)	0 (0%)
Less than three years of higher education (university or similar)	5 (9.8%)	2 (14%)	0 (0%)	4 (11%)	1 (2.9%)	10 (29%)
Bachelor/ three years of higher education (university or similar)	24 (47%)	5 (36%)	15 (26%)	29 (83%)	25 (71%)	14 (41%)
Master's degree	19 (37%)	5 (36%)	34 (60%)	2 (5.7%)	9 (26%)	3 (8.8%)
PhD	1 (2.0%)	0 (0%)	2 (3.5%)	0 (0%)	0 (0%)	7 (21%)
Experience						
Less than 1 year	2 (3.9%)	0 (0%)	6 (11%)	1 (2.9%)	0 (0%)	0 (0%)
1-5 years	12 (24%)	3 (21%)	18 (32%)	7 (20%)	1 (2.9%)	3 (8.8%)
6-10 years	10 (20%)	0 (0%)	6 (11%)	8 (23%)	2 (5.7%)	6 (18%)
11-15 years	5 (9.8%)	1 (7.1%)	6 (11%)	4 (11%)	7 (20%)	4 (12%)
16-20 years	8 (16%)	5 (36%)	12 (21%)	3 (8.6%)	10 (29%)	3 (8.8%)
More than 20 years	14 (27%)	5 (36%)	8 (14%)	12 (34%)	15 (43%)	18 (53%)
Missing	0	0	1	0	0	0

[T] Mean (SD); n (%)

The number of participants in the leaders' group is considerably smaller in each country, particularly in Finland. The demographics of the leaders are presented in Table 4. The mean age of the participants ranged between 42 and 51 years. The highest mean age was observed in Romania, while the lowest was in Spain. Female gender was predominant among the leaders: in every country, the majority of participants were women, and in Finland 100% of the participants were female. In Italy and Romania, the gender distribution was more balanced, with 33% of the participants being male in Italy and 29% in Romania.

The educational level of the leaders was relatively similar across countries. In most cases, the most common level of education was a bachelor's degree. In Finland, the number of participants with a bachelor's degree and a master's degree was equal, whereas in Italy, a master's degree was the most prevalent level of education. In the entire sample, only 10 participants had an educational level of secondary school or lower. Similarly, 10 participants held a doctoral degree, the majority of whom were from Romania (7 participants).

In Romania, Norway, and Finland, the leaders reported relatively high levels of work experience. In Romania, 61.8% of the participants had 16–20 years or more of experience, while in both Norway and Finland the proportion was 72%. In Italy, Spain, and the Netherlands, the participants' work experience was more evenly distributed across all categories.

Table 5. Mean values of the survey scales (leaders)

Variable	ES N = 51[1]	FI N = 14[1]	IT N = 57[1]	NL N = 35[1]	NO N = 35[1]	RO N = 34[1]
SWEMBWS score (Mental wellbeing)	27.1 (2.3)	27.1 (2.0)	25.9 (2.9)	28.8 (2.5)	26.4 (2.9)	29.2 (3.0)
CD-RISC score (Individual resilience)	31 (5)	31 (3)	25 (7)	32 (5)	31 (5)	31 (5)
CBI score (Burnout)	46 (16)	35 (14)	42 (17)	27 (10)	39 (16)	43 (21)
MOAQ score (Intention to turnover)	2.75 (1.62)	2.32 (1.48)	2.54 (1.33)	2.09 (1.44)	2.80 (1.61)	1.80 (1.27)
SAH (Self-assessed health)						
Poor	0 (0%)	6 (43%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Fair	7 (14%)	5 (36%)	7 (12%)	1 (2.9%)	3 (8.6%)	3 (8.8%)
Good	25 (49%)	3 (21%)	26 (46%)	20 (57%)	8 (23%)	21 (62%)
Very good	17 (33%)	0 (0%)	17 (30%)	13 (37%)	22 (63%)	10 (29%)
Excellent	2 (3.9%)	0 (0%)	7 (12%)	1 (2.9%)	2 (5.7%)	0 (0%)

[1] Mean (SD); n (%)

The mean scores of the survey measures are presented in Table 5. In the leaders' questionnaire, the same instruments were used as in the healthcare workers' survey. For the SWEMWBS scale, the mean scores ranged from 25.9 to 29.2 across countries. As higher scores indicate better mental well-being, respondents in all countries appeared to experience relatively good levels of mental well-being. The highest mean score was observed in Romania and the lowest in Italy. Overall, the mean scores were slightly higher than those observed in the healthcare workers' group.

For the CD-RISC scale, the mean scores ranged from 25 to 32. In all countries except Italy, the mean score was 31 or higher, whereas in Italy it was 25. Since higher scores on the CD-RISC indicate greater individual resilience, the Italian participants reported noticeably lower individual resilience compared to other countries. The highest mean score was observed in the Netherlands (32).

For the CBI scale, the mean scores in all countries were below 46. However, there was considerable variation across countries. Among the leaders, the Netherlands reported the lowest mean score (27), indicating low levels of burnout among respondents. In contrast, the highest scores were found in Spain, Italy, and Romania, ranging from 42 to 46.

For the MOAQ scale, measured on a 1-7 response scale, the mean scores varied across the six countries. The highest mean score was observed in Norway (2.80), and the lowest mean score was found in Romania (1.80).

For the SAH scale, Finland stood out compared to the other countries also within the leaders' group. While 65% of the healthcare workers had rated their health status as "Fair" or "Poor", a similarly high proportion was observed among the nursing leaders, 79% of whom assessed their health in the same categories. In the other countries, no more than 14% of the leaders selected the "Poor" or "Fair" categories. In these countries, the most common response was "Good", except in Norway, where "Very Good" was the most frequently chosen category. Notably, none of the Finnish respondents rated their health as "Very Good" or "Excellent". In all other countries, at least 29% of the respondents rated their health as corresponding to the two highest categories.

Table 6. Mean values of RCS leaders

Organisational resilience	ES N = 51[1]	FI N = 14[1]	IT N = 57[1]	NL N = 35[1]	NO N = 35[1]	RO N = 34[1]
Involvement	4.17 (0.60)	3.90 (0.70)	3.77 (0.80)	4.30 (0.58)	4.11 (0.70)	4.08 (0.67)
Alignment	3.97 (0.60)	3.66 (0.72)	3.59 (0.69)	4.14 (0.57)	3.74 (0.64)	4.06 (0.46)
Risk management	3.65 (0.72)	3.93 (0.64)	3.52 (0.76)	3.91 (0.70)	3.87 (0.53)	3.96 (0.58)
Competence	3.81 (0.65)	3.98 (0.44)	3.72 (0.75)	3.88 (0.65)	4.01 (0.70)	3.88 (0.71)
Leadership	3.92 (0.92)	3.38 (0.89)	3.54 (0.80)	3.97 (0.66)	3.90 (0.74)	3.64 (0.74)
Communication	4.14 (0.59)	3.74 (0.37)	3.81 (0.75)	3.63 (0.67)	4.03 (0.69)	3.75 (0.76)
Facilitators	4.10 (0.77)	4.07 (0.89)	3.47 (0.80)	3.99 (0.52)	4.22 (0.62)	3.68 (0.87)
Learning	3.76 (0.75)	3.60 (0.54)	3.51 (0.70)	3.89 (0.66)	3.91 (0.62)	3.94 (0.59)
Coordination	3.92 (0.60)	3.33 (0.64)	3.43 (0.69)	3.42 (0.54)	3.27 (0.59)	3.81 (0.53)
Structure	4.10 (0.54)	3.48 (0.62)	3.70 (0.80)	3.93 (0.55)	3.86 (0.43)	4.07 (0.49)

[1] Mean (SD)

For the RCS scale, where responses range from 1 to 5, the mean scores varied between 3.27 and 4.30. As higher scores reflect stronger belief in organisational resilience, the fact that all mean scores among the leaders were above the midpoint indicates generally positive perceptions. Particularly high values were reported in the "Involvement" category, with Romania, Spain, Norway, and the Netherlands all scoring above 4, while Finland and Italy also demonstrated relatively strong results, with mean scores exceeding 3.77.

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3.1.3 Informal caregivers

Table 7. Informal caregivers' demographics

Variable	ES N = 284[T]	FI N = 177[T]	IT N = 186[T]	NL N = 450[T]	NO N = 214[T]	RO N = 288[T]
Age	58 (13)	65 (12)	58 (8)	64 (11)	59 (11)	50 (13)
Missing	11	6	1	9	16	8
Gender						
Female	217 (78%)	132 (75%)	120 (65%)	315 (70%)	181 (85%)	220 (77%)
Male	63 (23%)	44 (25%)	65 (35%)	133 (30%)	33 (15%)	64 (23%)
Other	0 (0%)	0 (0%)	1 (0.5%)	0 (0%)	0 (0%)	0 (0%)
Missing	4	1	0	2	0	4
Education						
None	9 (3.2%)	6 (3.4%)	0 (0%)	1 (0.2%)	0 (0%)	0 (0%)
Primary school	47 (17%)	12 (6.8%)	29 (16%)	5 (1.1%)	8 (3.7%)	14 (4.9%)
Secondary school	54 (19%)	87 (49%)	71 (39%)	95 (21%)	49 (23%)	124 (44%)
Less than three years of higher education (university or similar)	54 (19%)	16 (9.1%)	30 (16%)	124 (28%)	27 (13%)	39 (14%)
Bachelor/ three years of higher education (university or similar)	76 (27%)	34 (19%)	23 (13%)	159 (36%)	77 (36%)	69 (24%)
Master's degree	35 (13%)	19 (11%)	30 (16%)	53 (12%)	40 (19%)	35 (12%)
PhD	5 (1.8%)	2 (1.1%)	1 (0.5%)	9 (2.0%)	13 (6.1%)	4 (1.4%)
Missing	4	1	2	4	0	3
Caregiving experience						
Less than 1 year	19 (6.8%)	24 (14%)	36 (20%)	15 (3.3%)	7 (3.3%)	92 (32%)
1–5 years	112 (40%)	113 (64%)	83 (45%)	198 (44%)	115 (54%)	72 (25%)
6-10 years	79 (28%)	20 (11%)	38 (21%)	119 (26%)	57 (27%)	52 (18%)
11-15 years	35 (13%)	12 (6.8%)	10 (5.4%)	53 (12%)	19 (8.9%)	35 (12%)
16-20 years	12 (4.3%)	4 (2.3%)	4 (2.2%)	29 (6.4%)	8 (3.7%)	19 (6.7%)
More than 20 years	22 (7.9%)	3 (1.7%)	13 (7.1%)	36 (8.0%)	8 (3.7%)	15 (5.3%)
Missing	5	1	2	0	0	3
Caregiving effort						
1-5 hours per week	56 (20%)	14 (8.0%)	106 (58%)	130 (29%)	68 (32%)	85 (30%)
6-10 hours per week	53 (19%)	30 (17%)	40 (22%)	139 (31%)	66 (31%)	52 (18%)
11-20 hours per week	47 (17%)	10 (5.7%)	13 (7.1%)	60 (13%)	28 (13%)	19 (6.6%)
21-30 hours per week	19 (6.8%)	7 (4.0%)	3 (1.6%)	14 (3.1%)	5 (2.3%)	17 (5.9%)
More than 30 hours per week	29 (10%)	8 (4.5%)	6 (3.3%)	35 (7.8%)	9 (4.2%)	20 (7.0%)
We live together	76 (27%)	107 (61%)	14 (7.7%)	70 (16%)	38 (18%)	93 (33%)
Missing	4	1	4	2	0	2

[T] Mean (SD); n (%)

The demographics of informal caregivers are presented in Table 7. The mean age of informal caregivers across countries ranged from 50 to 65 years, with the lowest mean observed in

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Romania and the highest in Finland. In all countries, women accounted for at least 65% of respondents, which is in line with previous reported proportions of informal caregivers.

The educational level of informal caregivers varied considerably across countries. Secondary school was the most common level of education in Finland, Italy and Romania, whereas a bachelor's degree was most prevalent in Norway, Spain and the Netherlands. Apart from these patterns, the distribution of education levels differed substantially among countries across all categories. The only exception was the "None" category, where no respondents were reported in Italy, Norway or Romania.

The most common caregiving experience was 1–5 years in all countries except Romania, where it was less than one year. Across all countries, at least 46.8% of respondents reported having five years or less of caregiving experience.

Caregiving effort varied considerably across countries. Only in Finland did the clear majority of respondents live with the person they cared for. In Spain and Romania, this was also the most common category, but the proportions were much lower (61% compared to 27–33%). In the other countries, no more than 18% of respondents selected the category "We live together". In Italy, the Netherlands and Norway, more than 60% of respondents reported providing less than 10 hours of caregiving per week.

Table 8. Mean values of the survey scales (informal caregivers)

Variable	ES N = 284[1]	FI N = 177[1]	IT N = 186[1]	NL N = 450[1]	NO N = 214[1]	RO N = 288[1]
SWEMBWS score (Mental wellbeing)	25.8 (4.3)	25.2 (4.5)	25.5 (4.4)	26.6 (3.9)	24.7 (4.3)	28.8 (3.9)
CD-RISC score (Individual resilience)	28 (6)	27 (6)	25 (7)	27 (6)	27 (6)	29 (7)
FICQ score (Family involvement)	3.10 (0.54)	3.07 (0.61)	3.32 (0.52)	3.18 (0.65)	2.94 (0.61)	3.43 (0.52)
Missing	1	1	0	1	1	1
CSAQ score (Risk of burden)	132 (46%)	68 (38%)	32 (17%)	101 (22%)	92 (43%)	86 (30%)
SAH (Self-assessed health)						
Poor	15 (5.3%)	32 (18%)	12 (6.5%)	11 (2.5%)	20 (9.4%)	9 (3.1%)
Fair	104 (37%)	56 (32%)	77 (41%)	126 (28%)	83 (39%)	64 (22%)
Good	115 (41%)	69 (39%)	79 (42%)	223 (50%)	60 (28%)	159 (56%)
Very good	43 (15%)	17 (9.6%)	17 (9.1%)	68 (15%)	38 (18%)	47 (16%)
Excellent	6 (2.1%)	3 (1.7%)	1 (0.5%)	19 (4.3%)	11 (5.2%)	7 (2.4%)
Missing	1	0	0	3	2	2

[1] Mean (SD); n (%)

The mean scores of the instruments for the informal caregivers are presented in Table 8. The questionnaire for informal caregivers included the SWEMWBS, CD-RISC, FICQ, CSAQ and SAH scales.

The results of the informal caregivers on the SWEMWBS scale were broadly similar to those of the healthcare workers and leaders. However, the informal caregivers scored slightly lower than the other groups. Their mean scores ranged from 24.7 to 28.8 across countries, with the lowest value observed in Norway and the highest in Romania. By comparison, the mean scores for healthcare workers ranged from 25.6 to 29.3, and for leaders from 25.9 to 29.2. With the maximum score being 35, the self-assessed mental well-being in all countries was relatively good.

The CD-RISC results showed little variation between countries. The highest mean score was observed in Romania (29 on a 0-40 scale) and the lowest in Italy (25 points). Given that the maximum possible score on the CD-RISC is 40, the observed mean scores of 25–29 suggest a moderately high level of individual resilience among the respondents. While the scores do not reach the upper end of the scale, they nevertheless indicate that participants generally perceived themselves as resilient.

The FICQ scale measured family involvement in patient care. The response options ranged from 1 to 4 (1 = Fully disagree, 4 = Fully agree), with 5 indicating Not relevant (N/A). A lower score reflects less family involvement in patient care, whereas a higher score indicates that informal caregivers perceive greater opportunities to participate in patient care and its

planning. The results showed little variation between countries, with mean scores ranging from 2.94 to 3.43. Overall, the relatively high means suggest that informal caregivers felt they were sufficiently involved in patient care. The highest score was observed in Romania, while the lowest was in Norway.

The CSAQ results provide indications of whether an informal caregiver is at risk of burden. The instrument yields a dichotomous outcome (Yes/No), where a "Yes" response is scored as one point, and the table presents the total number of points by country. There were substantial differences between countries in the prevalence of risk of burden. Spain and Norway stood out, with almost half of the respondents in Spain and Norway being at risk. In contrast, Italy and the Netherlands had the lowest proportions, with 22% or fewer respondents at risk. In four out of the six countries, approximately one-third (1/3) or more of the respondents were identified as being at risk of burden. Taken together, the results suggest that informal caregiver burden is a widespread concern.

Self-assessed health was distributed more evenly across countries compared to the healthcare workers and leaders. The most common response category was "Good" in all countries except Norway, where "Fair" was the most frequent. In every country, at least 25% of respondents rated their health as "Fair" or "Poor". However, notable differences emerged between countries: in Finland, Norway and Italy, 47.5–50% of respondents selected either "Fair" or "Poor". Overall, self-assessed health tended to be weighted more towards poorer rather than very good health. In all countries, no more than 23.2% of respondents rated their health as "Very good" or "Excellent".

3.2 Analysis of variance

3.2.1 Healthcare workers

3.2.1.1 Mental wellbeing
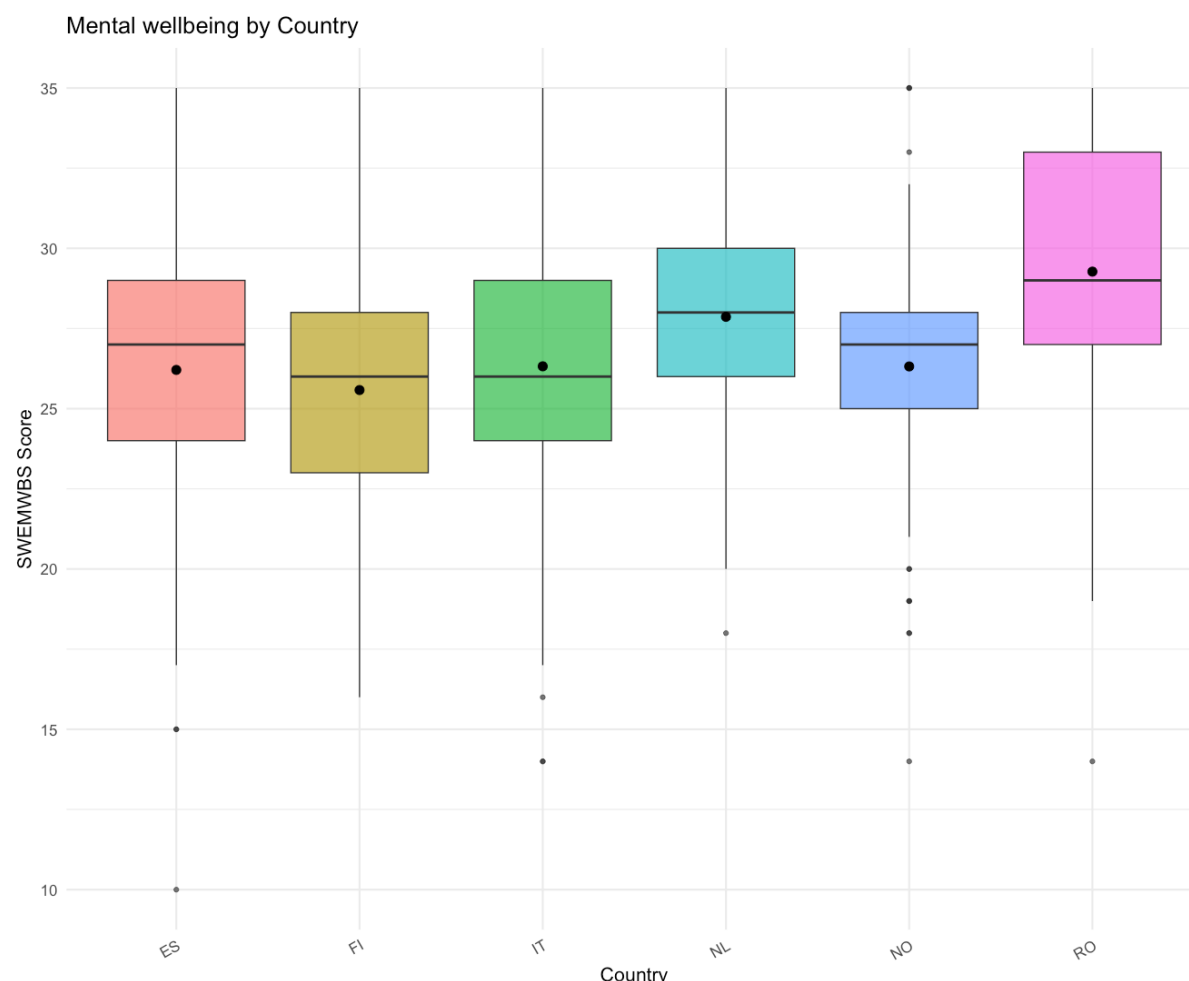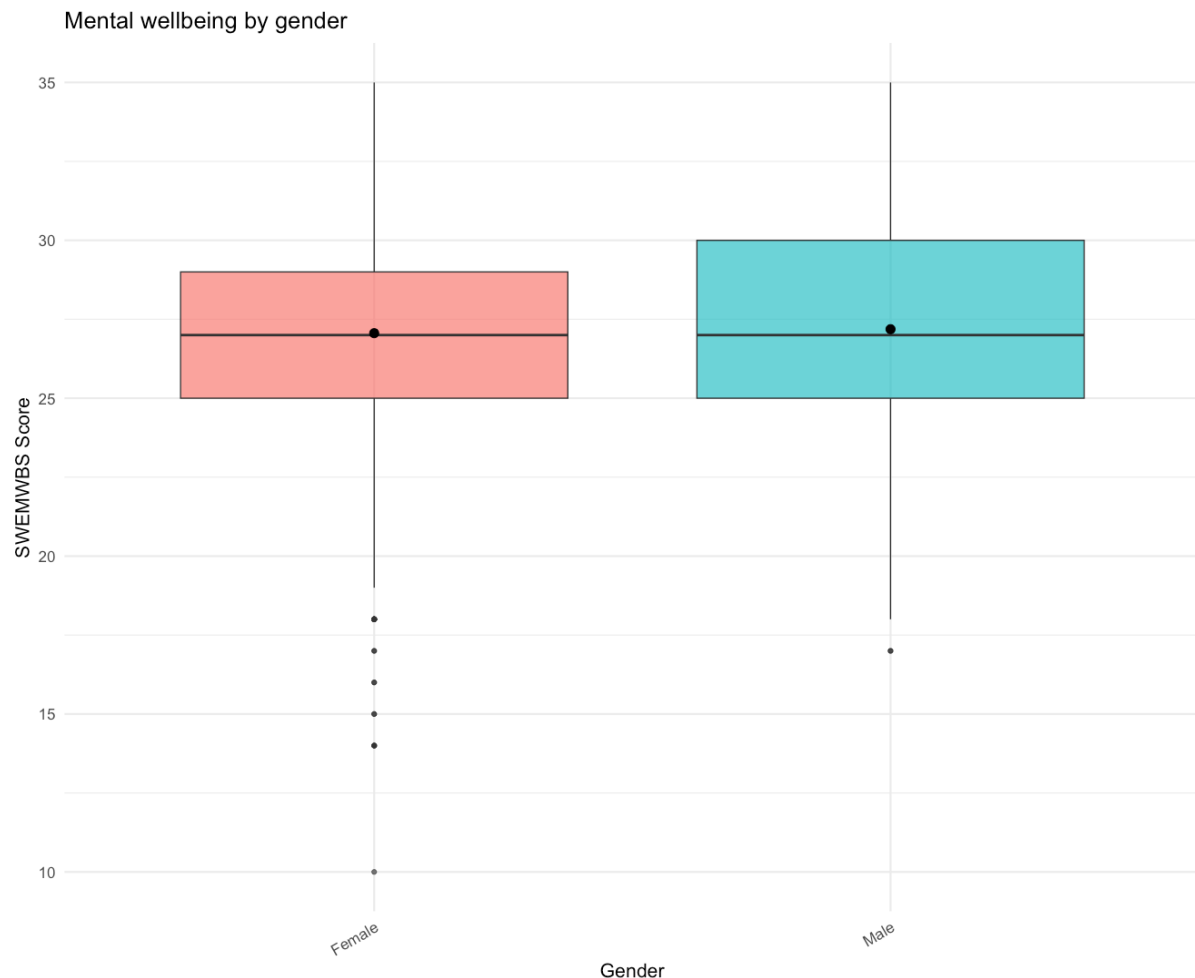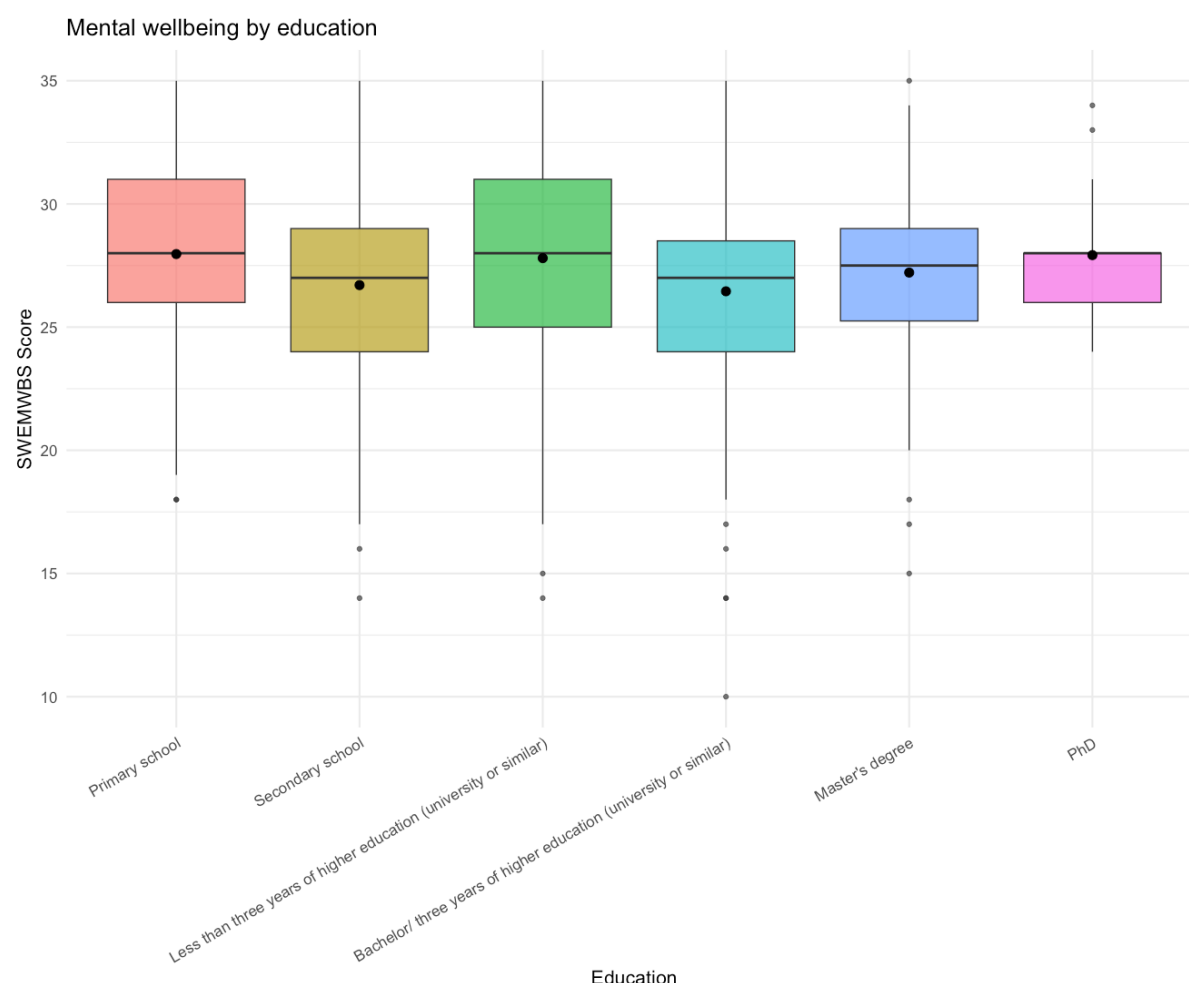
Mental wellbeing by Country

Figure 1. Analysis of Variance (ANOVA) of healthcare workers SWEMWBS score by Country

Analysis of variance revealed that country was significantly associated with SWEMWBS wellbeing scores, $F(5, 1238) = 30.92$, $p < .001$. This suggests that there are meaningful differences in wellbeing between the six countries included in the sample. Post-hoc comparisons indicated that Romania and the Netherlands reported the highest levels of mental wellbeing, whereas Finland and Italy had the lowest mean scores. Spain and Norway fell in between, though both showed considerable variability. These patterns are also visible in Figure 1, which illustrates the distribution of wellbeing scores by country.
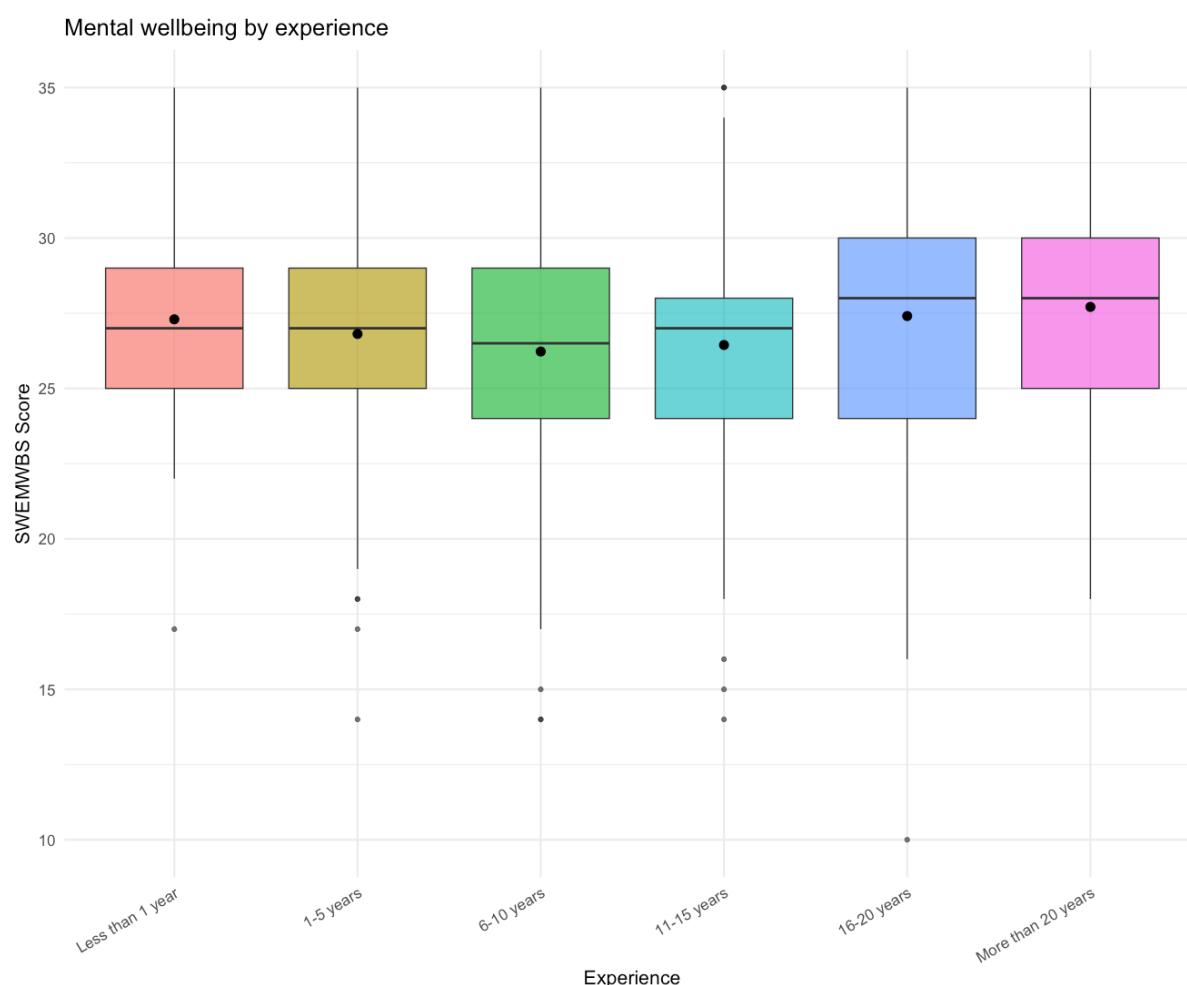
20

Figure 2. Analysis of Variance (ANOVA) of healthcare workers SWEMWBS score by gender

Analysis of variance showed that gender was not significantly associated with SWEMWBS wellbeing scores, $F(1, 1233) = 0.12$, $p = .728$. This suggests that, in our sample, male and female respondents reported similar levels of wellbeing. Both groups had nearly identical mean and median scores, and the distributions largely overlapped, with only minor differences such as a few more low outliers among female respondents (Figure 2).
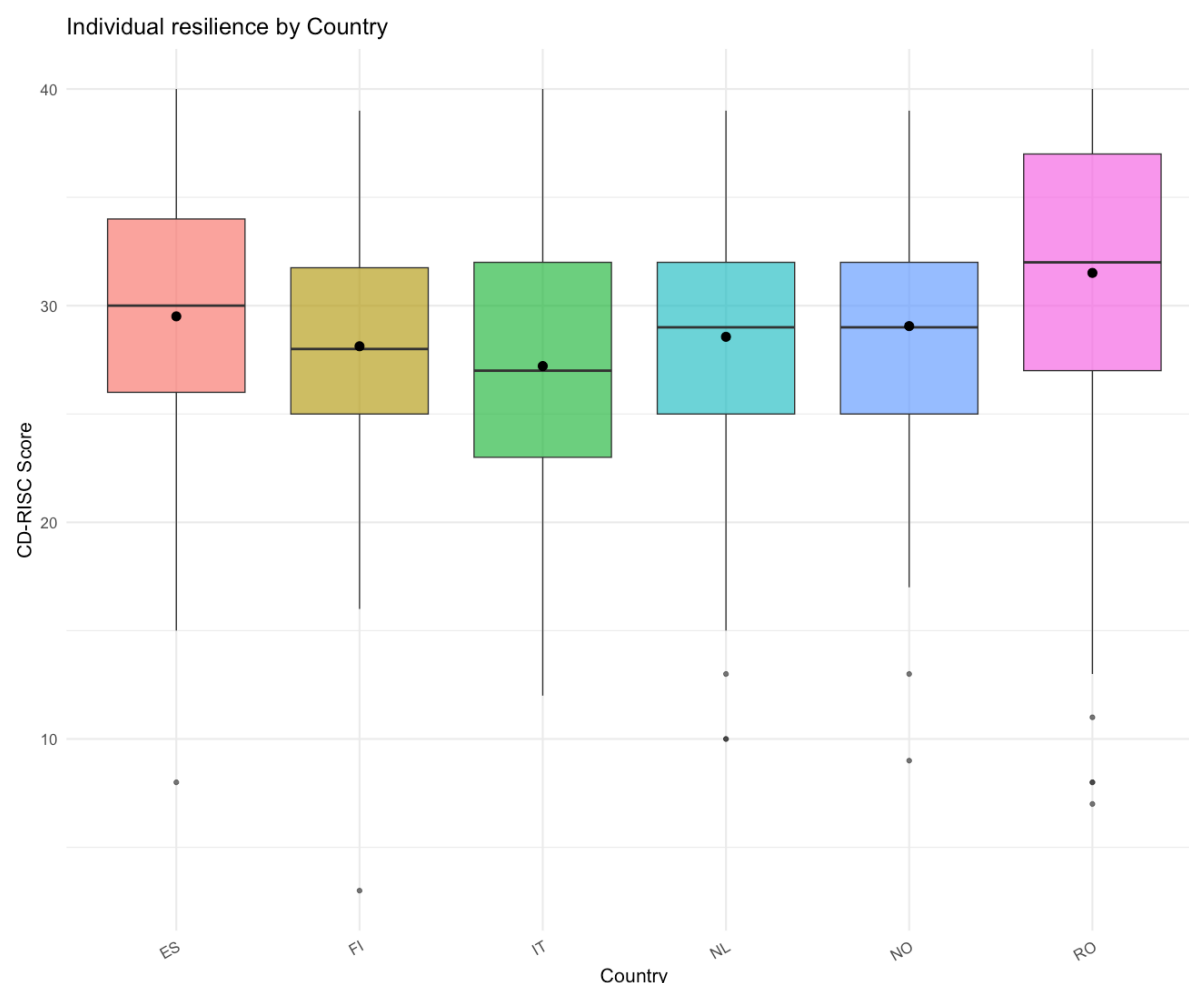
Figure 3. Analysis of Variance (ANOVA) of healthcare workers SWEMWBS score by education

Analysis of variance revealed that education was significantly associated with SWEMWBS wellbeing scores, $F(5, 1232) = 4.95$, $p < .001$. This suggests that there are meaningful differences in wellbeing between the education levels included in the sample. Specifically, respondents with a bachelor's degree or only primary education reported the highest wellbeing scores, whereas those with secondary school or less than three years of higher education had the lowest. These results suggest that the association between education and wellbeing is not strictly linear, with both the lowest and mid-level qualifications linked to lower scores, as illustrated in Figure 3.

Figure 4. Analysis of Variance (ANOVA) of healthcare workers SWEMWBS score by experience

Analysis of variance revealed that experience was significantly associated with SWEMWBS wellbeing scores, $F(5, 1234) = 5.79$, $p < .001$. This suggests that there are meaningful differences in wellbeing between the experience levels included in the sample. Respondents with 16–20 years or more than 20 years of experience reported the highest wellbeing scores, whereas those with 1–5 or 6–10 years of experience had the lowest. These findings suggest that wellbeing may increase with longer work experience, although considerable individual variability was observed within all groups. The distribution of scores across experience levels is illustrated in Figure 4.
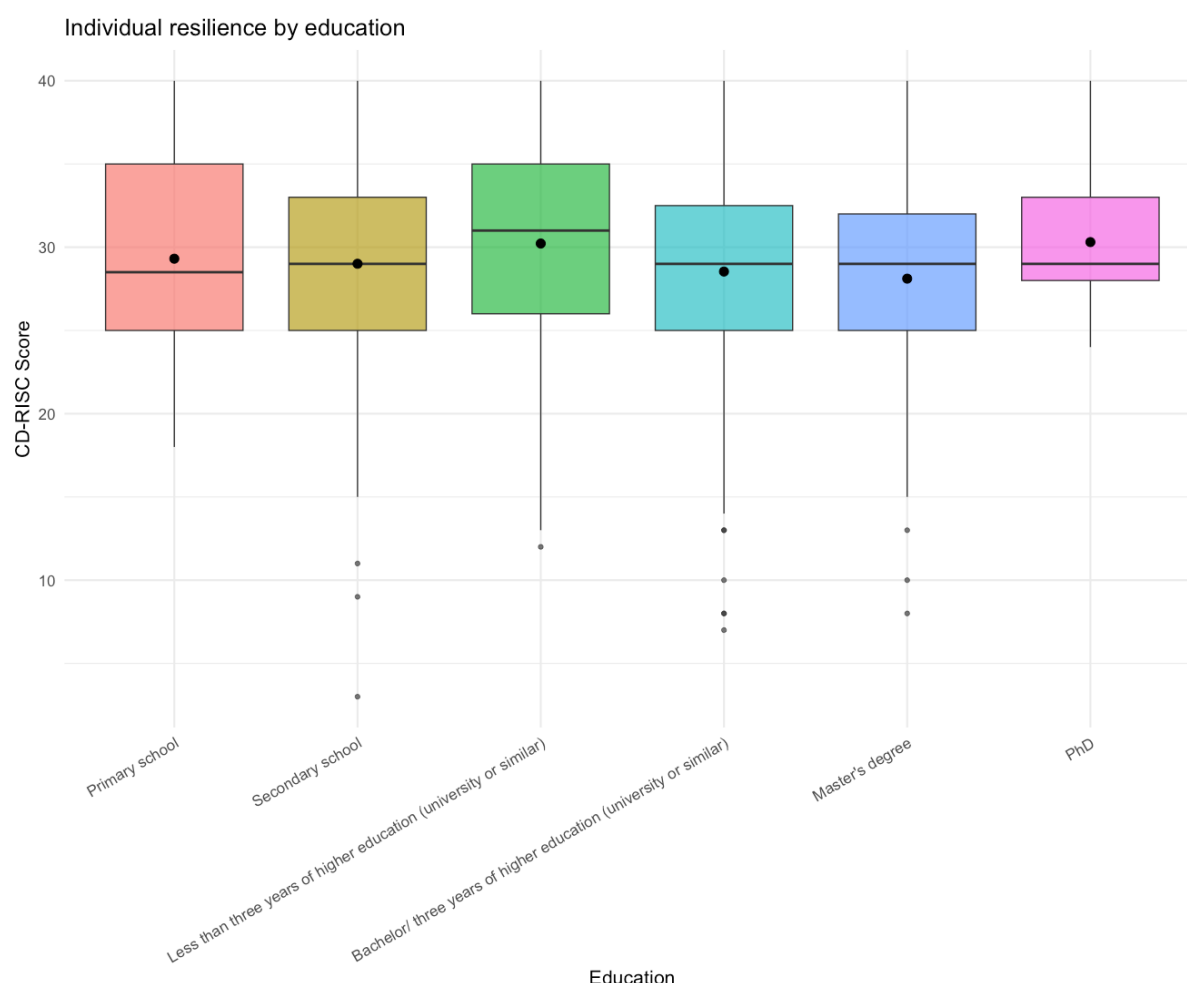
3.2.1.2 Individual resilience

Figure 5. Analysis of Variance (ANOVA) of healthcare workers CD-RISC score by country

Analysis of variance revealed that experience was significantly associated with SWEMWBS wellbeing scores, $F(5, 1238) = 14.63$, $p < .001$. This suggests that there are meaningful differences in individual resilience between the six countries included in the sample. Respondents in Romania reported the highest resilience levels, with median scores above 30, while those in Italy had the lowest, with median scores around 26–27. Spain and Norway also showed relatively high resilience, whereas Finland and the Netherlands fell in the middle range. These findings are represented in Figure 5.
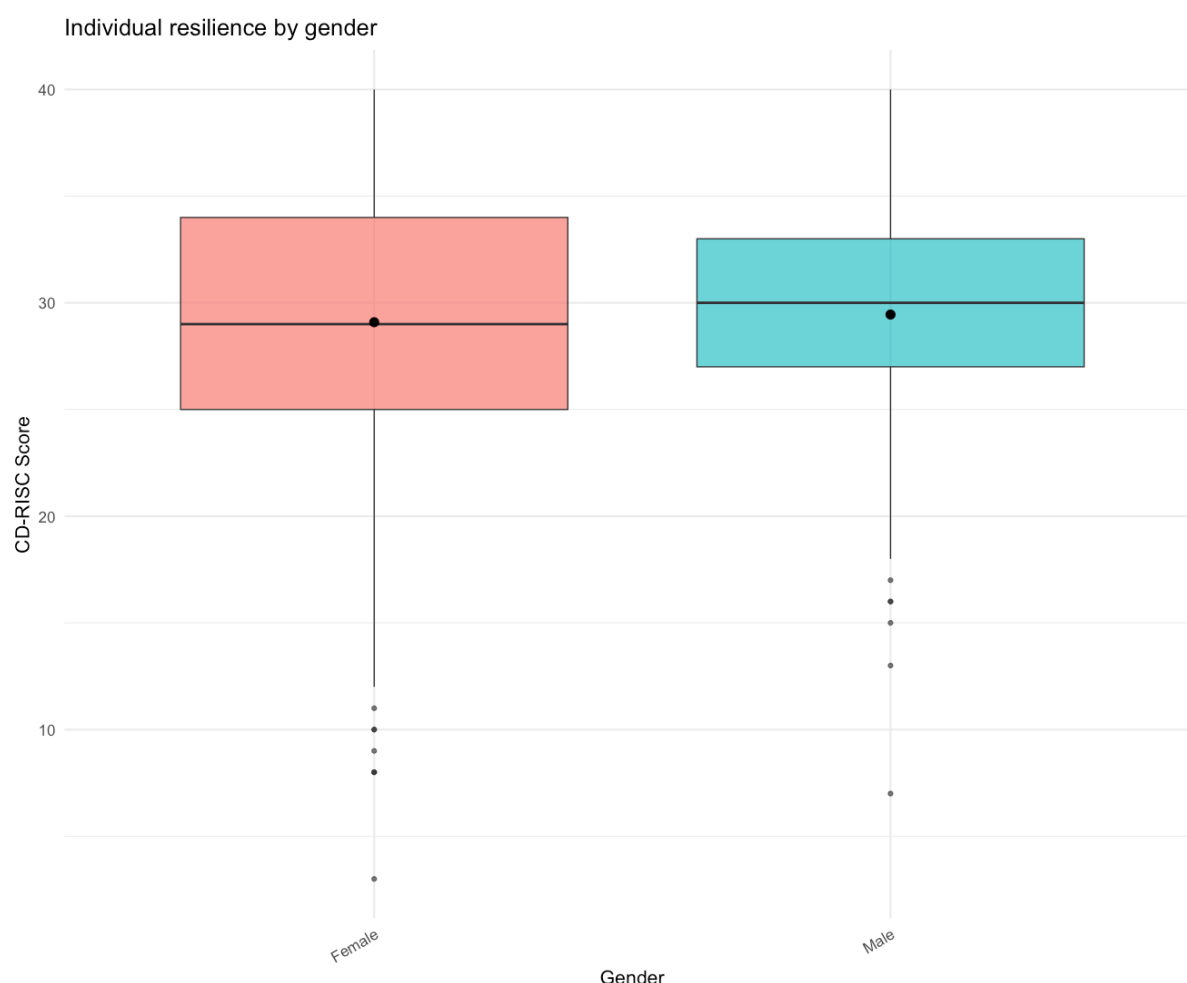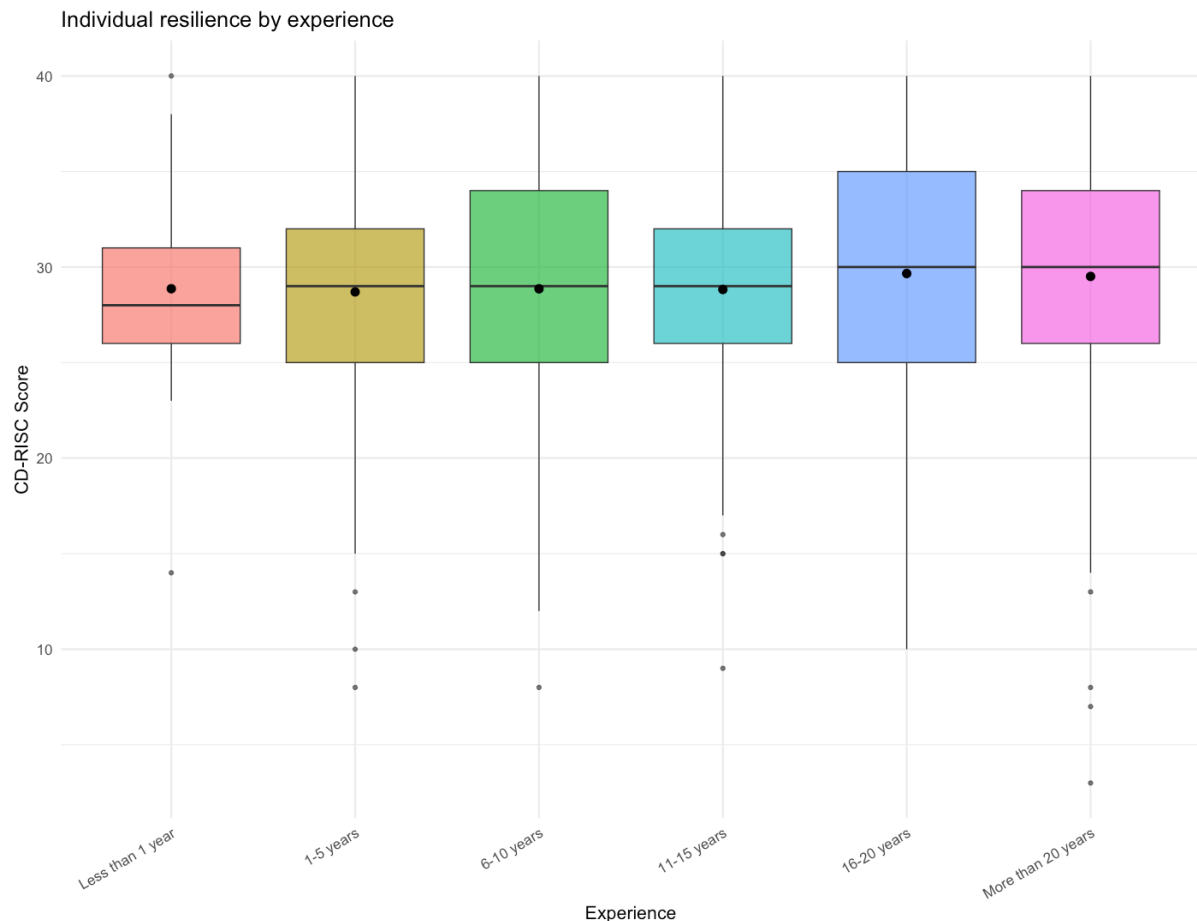
Figure 6. Analysis of Variance (ANOVA) of healthcare workers CD-RISC score by gender

Analysis of variance showed that gender was not significantly associated with CD-RISC scores (individual resilience), $F(1, 1233) = 0.41$, $p = .524$. This suggests that, in our sample, male and female respondents reported similar levels of individual resilience. Both groups had nearly identical mean and median scores, and the distributions overlapped almost completely. Although a few more low outliers were observed among female respondents, these differences were minor and do not suggest systematic variation between genders. These findings are represented in Figure 6.
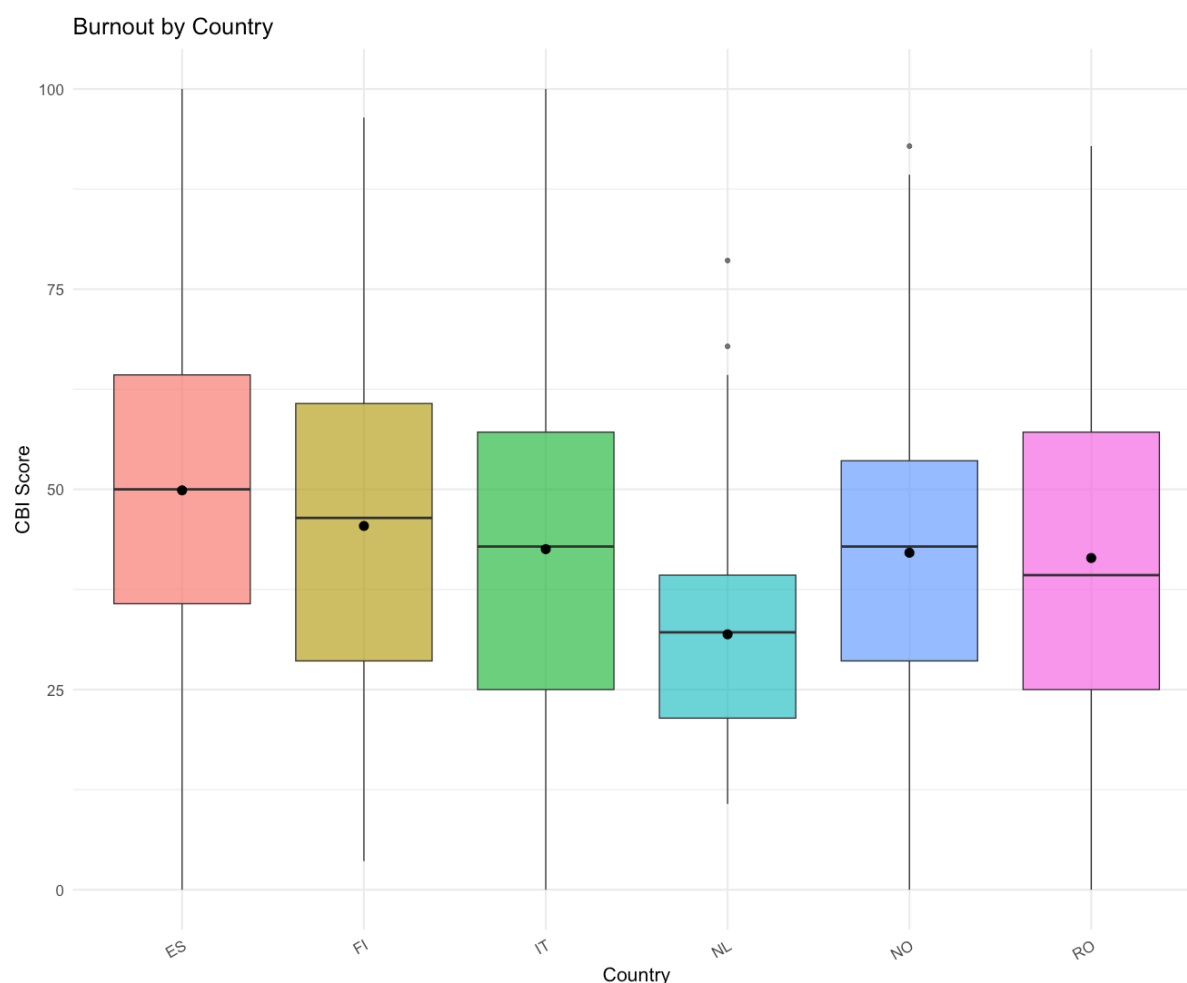
Figure 7. Analysis of Variance (ANOVA) of healthcare workers CD-RISC score by education

Analysis of variance revealed that education was significantly associated with CD-RISC (individual resilience) scores, $F(5, 1232) = 3.01$, $p < .01$. This suggests that there are meaningful differences in individual resilience between the education levels included in our sample. Respondents with a bachelor's degree or PhD reported the highest resilience scores, whereas those with only primary or secondary education scored lower. The pattern was not strictly linear, as participants with a master's degree reported somewhat lower scores than those with a bachelor's degree. These results are illustrated in Figure 7.

Individual resilience by experience

Figure 8. Analysis of Variance (ANOVA) of healthcare workers CD-RISC score by experience

Analysis of variance revealed that experience was not significantly associated with CD-RISC individual resilience scores, $F(5, 1234) = 1.32$, $p = .255$. This suggests that there are no meaningful differences in individual resilience between the experience levels included in the sample. Median and mean scores were nearly identical across groups, with only minor, non-systematic variation, as illustrated in Figure 8.
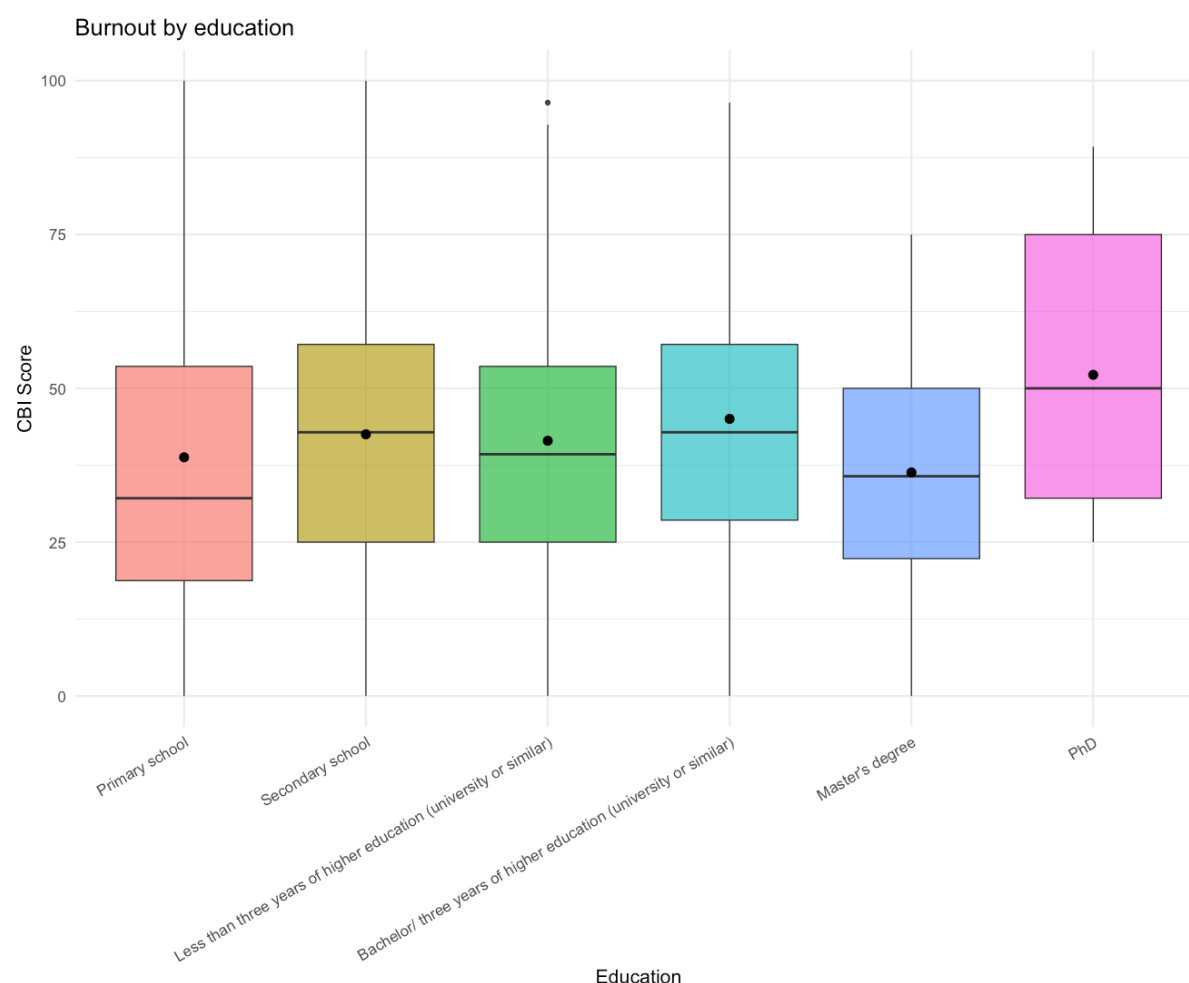
3.2.1.3 Burnout

Figure 9. Analysis of Variance (ANOVA) of healthcare workers CBI score by country

Analysis of variance revealed that country was significantly associated with CBI burnout scores, $F(5, 1238) = 17.8$, $p < .001$. This suggests that there are meaningful differences in burnout between the six countries included in the sample. Respondents in Spain reported the highest burnout levels, whereas those in the Netherlands reported the lowest. These differences are illustrated in Figure 9.
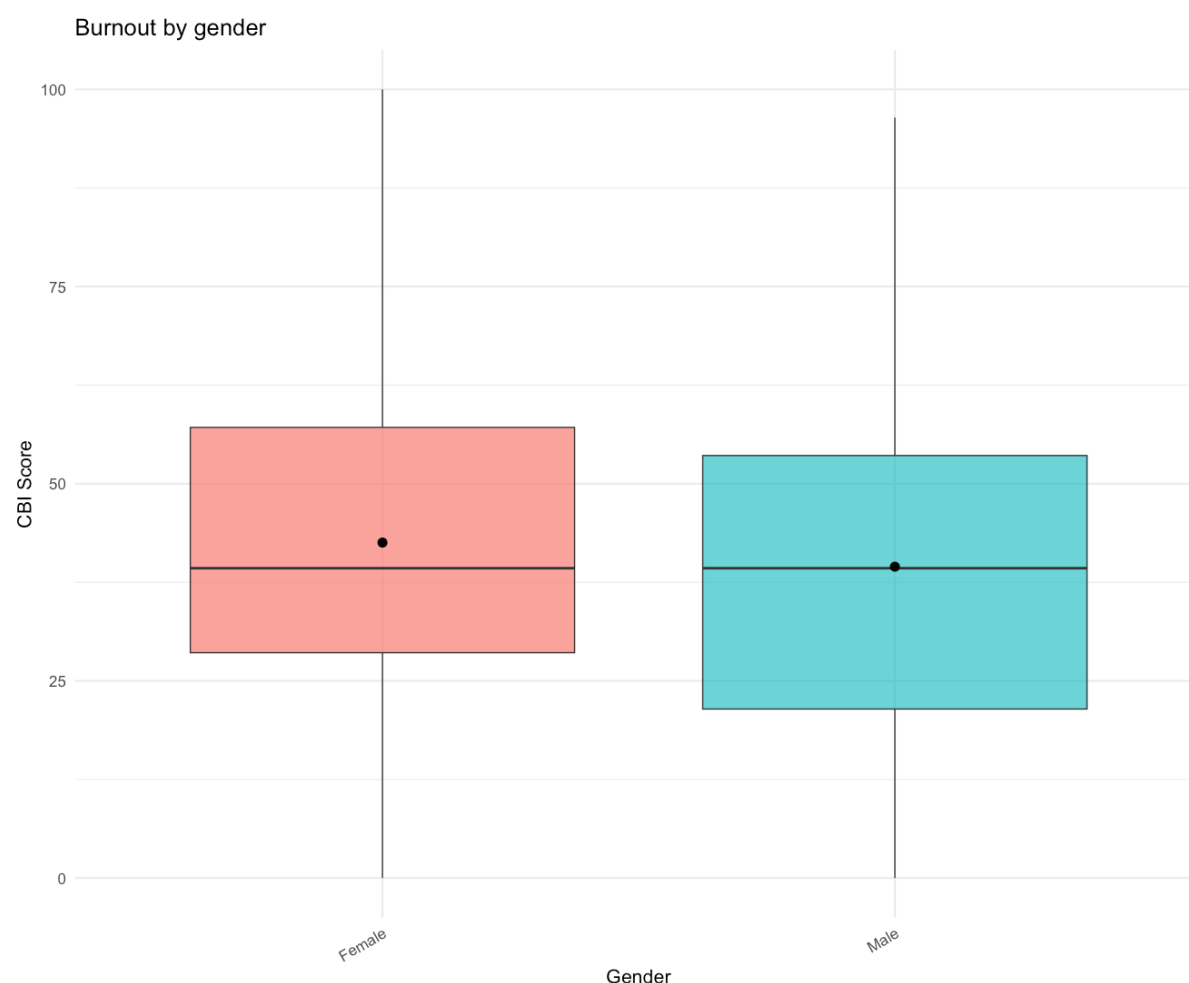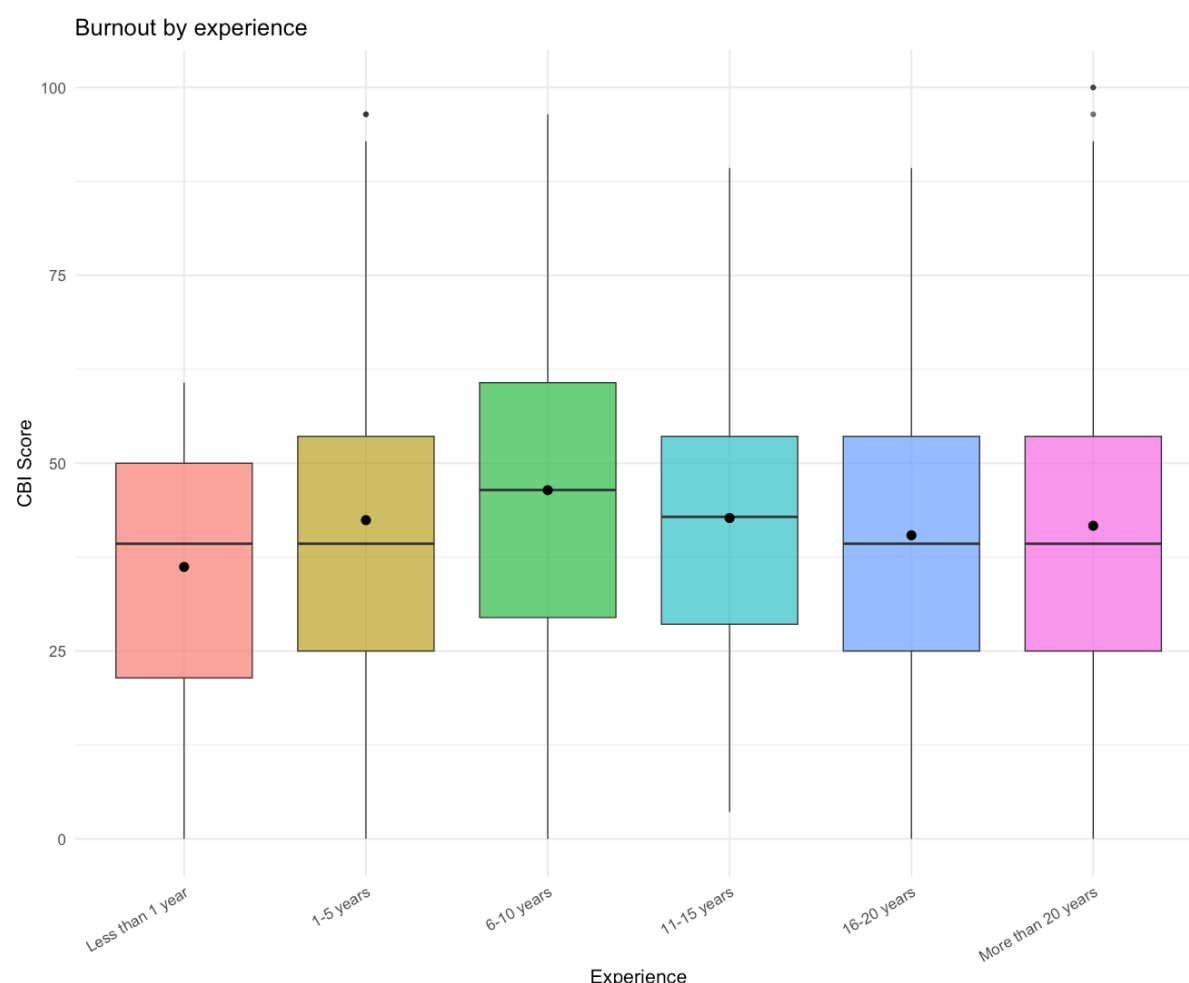
Figure 10. Analysis of Variance (ANOVA) of healthcare workers CBI score by gender

Analysis of variance showed that gender was not significantly associated with CBI scores (burnout), $F(1, 1233) = 2.46$, $p = .117$. This suggests that, in our sample, male and female respondents reported similar levels of burnout. Both groups had overlapping distributions, with only a minor tendency for women to report slightly higher scores. These results are illustrated in Figure 10.

Figure 11. Analysis of Variance (ANOVA) of healthcare workers CBI score by education

Analysis of variance revealed that education was significantly associated with CBI burnout scores, $F(5, 1232) = 3.3$, $p < .01$. This suggests that there are meaningful differences in burnout levels between the education levels included in our sample. Respondents with a PhD reported the highest burnout levels, whereas those with only primary education or a master's degree reported the lowest. The remaining groups fell in between these extremes, as illustrated in Figure 11.
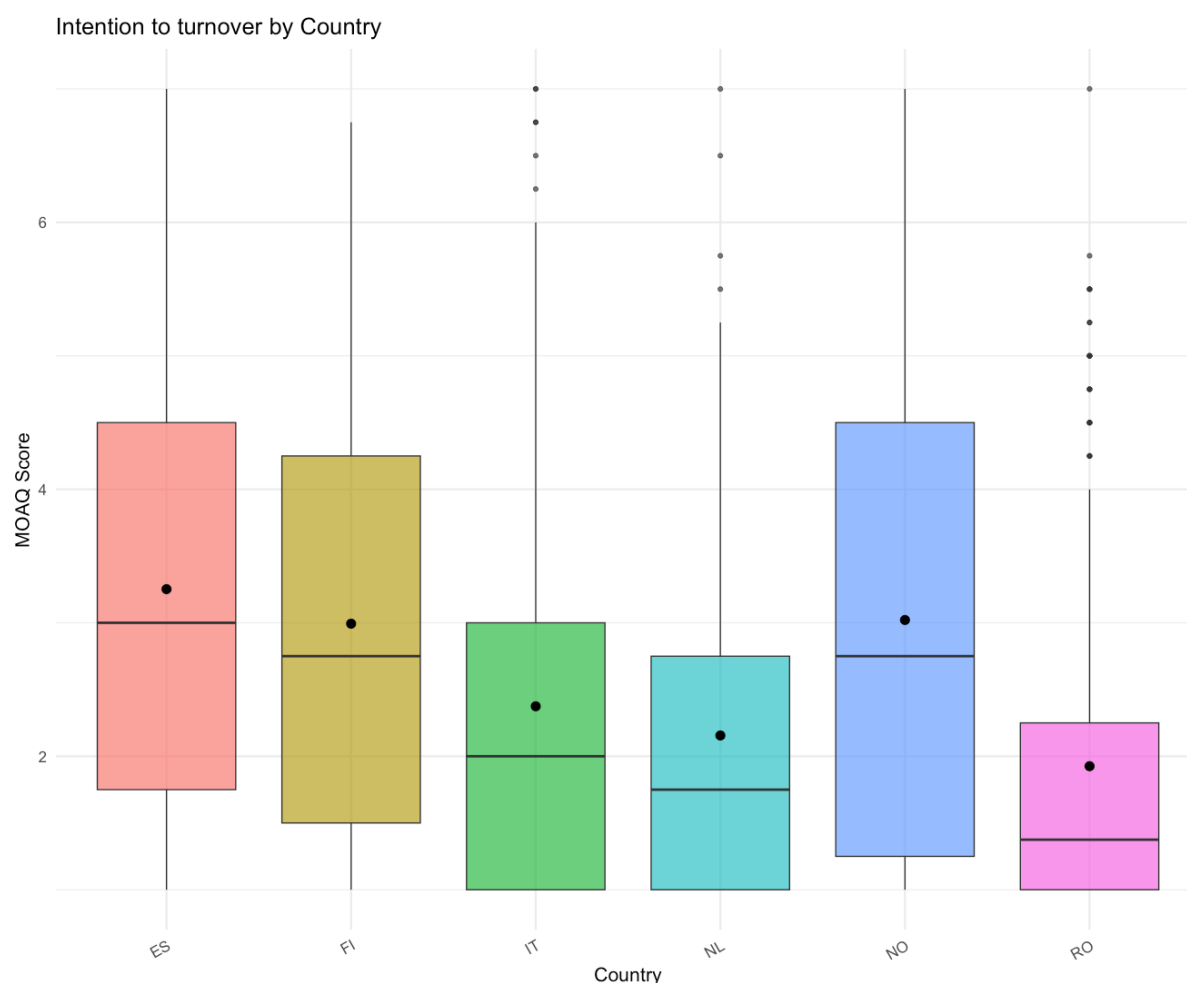
Figure 12. Analysis of Variance (ANOVA) of healthcare workers CBI score by experience

Analysis of variance revealed that experience was significantly associated with CBI burnout scores, $F_{(5, 1234)} = 2.78$, $p < .05$. This suggests that there are meaningful differences in burnout between the experience levels included in the sample. Respondents with 6–10 years of experience reported the highest burnout levels, whereas those with less than one year of experience reported the lowest. The other groups fell in between, showing relatively similar scores. These results are illustrated in Figure 12.
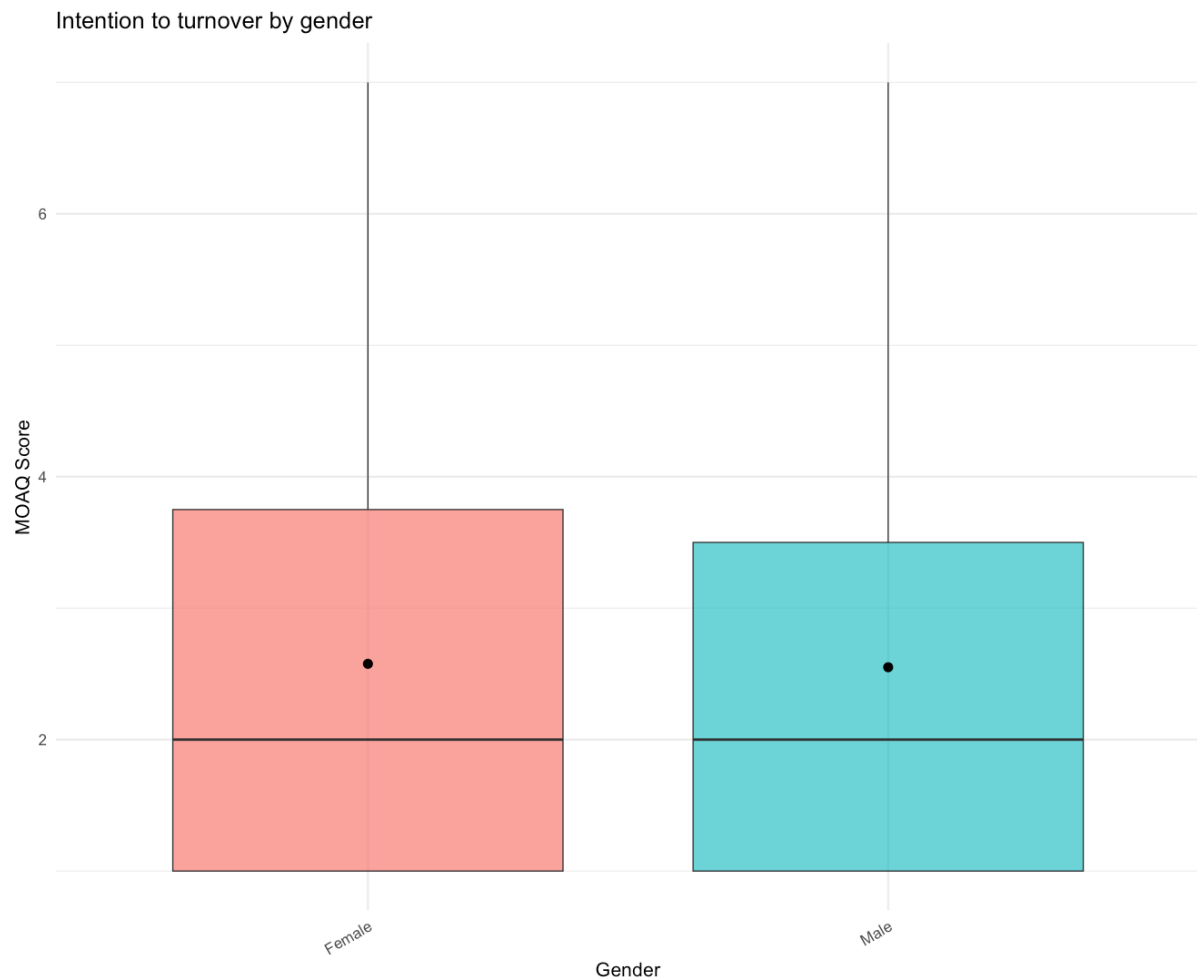
3.2.1.4 Intention to turnover

Figure 13. Analysis of Variance (ANOVA) of healthcare workers MOAQ score by country

Analysis of variance revealed that country was significantly associated with intention to turnover scores, $F(5, 1238) = 27.76$, $p < .001$. This suggests that there are meaningful differences in intention to turnover between the six countries included in the sample. Respondents in Norway and Spain reported the highest turnover intentions, while those in Romania reported the lowest. Finland, Italy, and the Netherlands fell in between these extremes. These results are illustrated in Figure 13.

Intention to turnover by gender

Figure 14. Analysis of Variance (ANOVA) of healthcare workers MOAQ score by gender

Analysis of variance showed that gender was not significantly associated with MOAQ scores (intention to turnover), $F(1, 1233) = 0.03$, $p = .861$. This suggests that, in our sample, male and female respondents reported similar levels of turnover intentions. Mean scores were almost identical for both groups, with fully overlapping distributions, as illustrated in Figure 14.
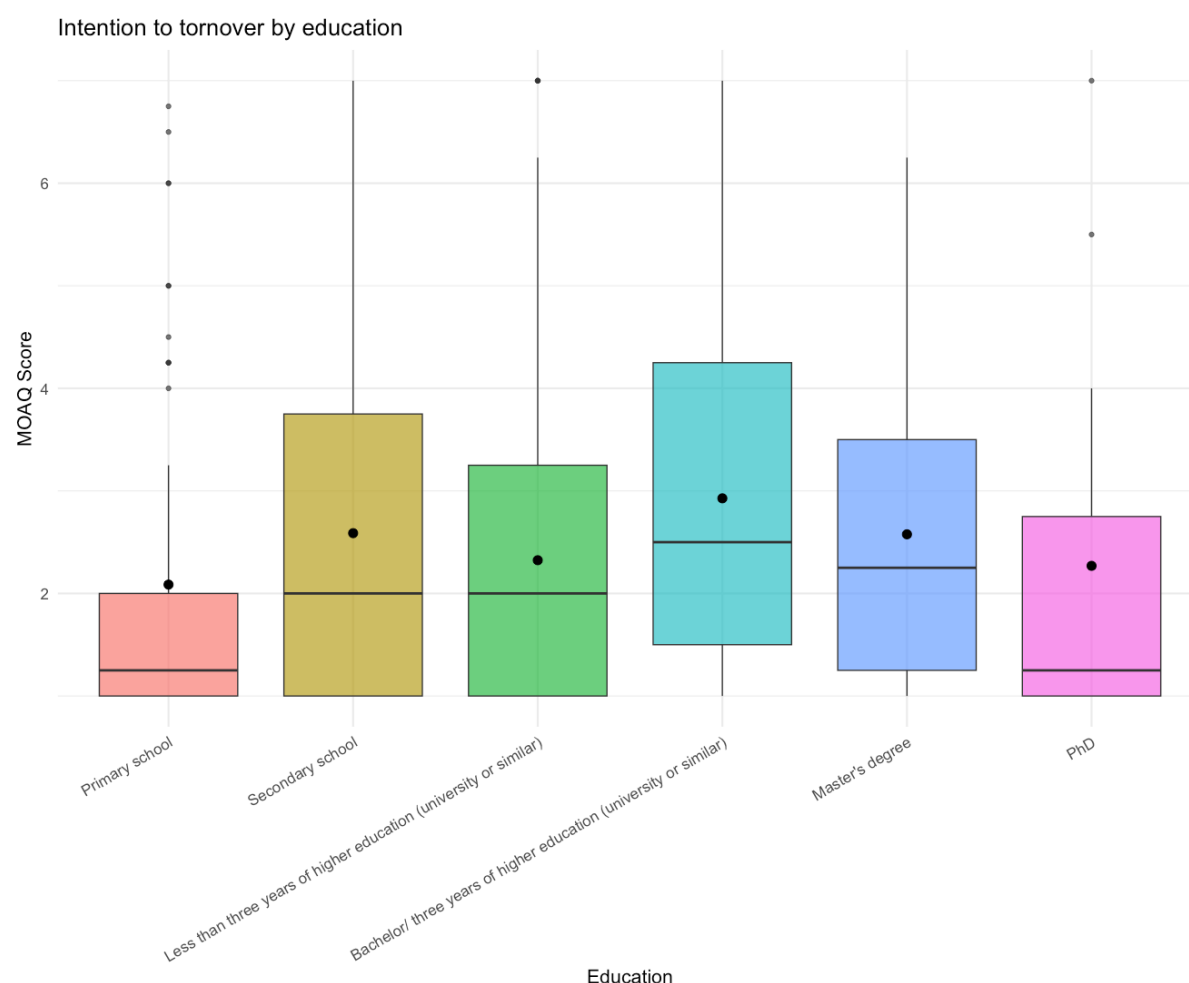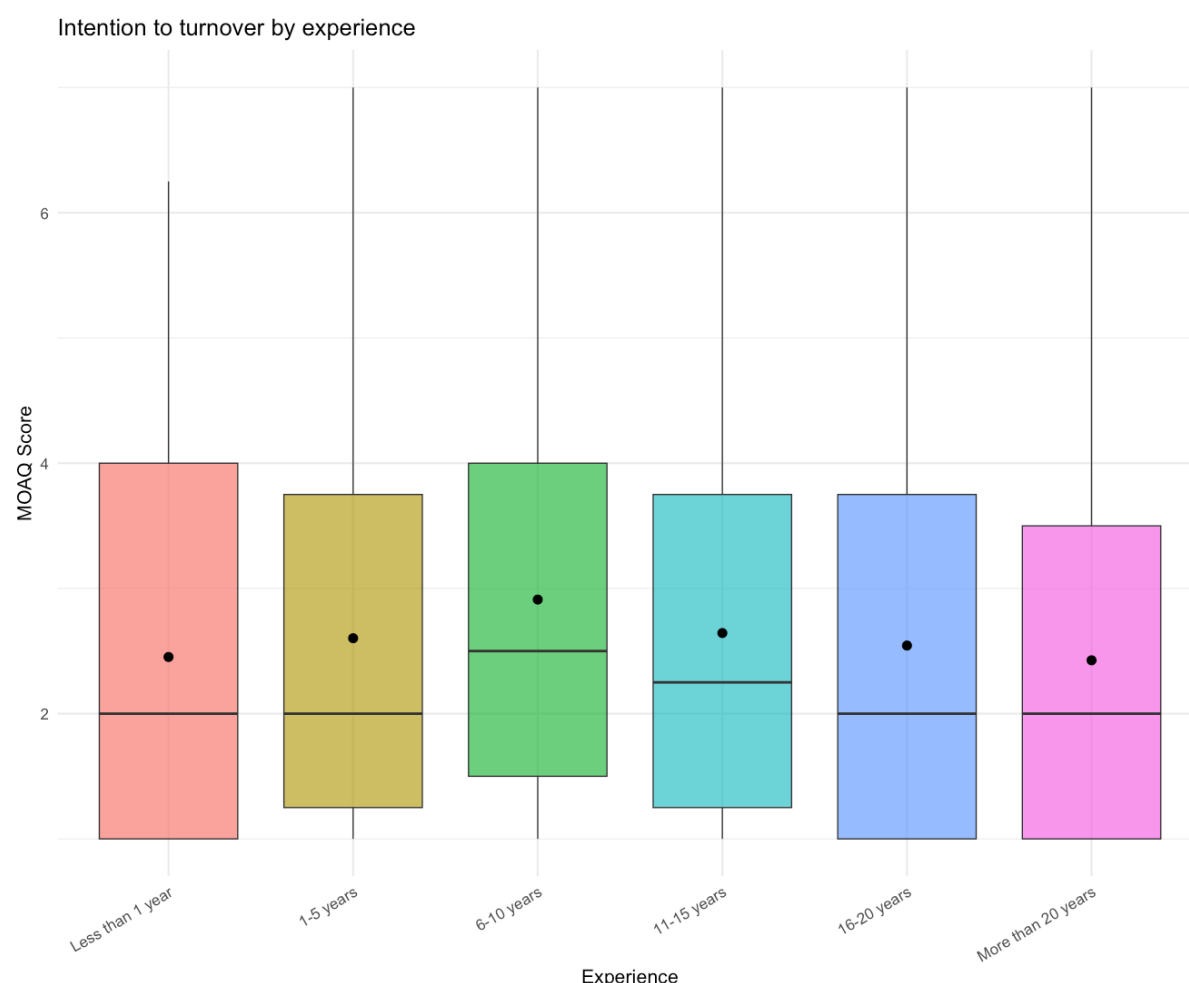
Figure 15. Analysis of Variance (ANOVA) of healthcare workers MOAQ score by education

Analysis of variance revealed that education was significantly associated with MOAQ scores (intention to turnover), $F(5, 1232) = 6.91$, $p < .001$. This suggests that there are meaningful differences in turnover intentions between the education levels included in our sample. Respondents with only primary education or a PhD reported the lowest turnover intentions, whereas those with secondary school or a bachelor's degree (three years or more) reported the highest. These results are illustrated in Figure 15.

Figure 16. Analysis of Variance (ANOVA) of healthcare workers MOAQ score by experience

Analysis of variance revealed that experience was significantly associated with MOAQ (intention to turnover) scores, $F(5, 1234) = 3.03$, $p < 0.05$. This suggests that there are meaningful differences in turnover intentions between the experience levels included in the sample. Respondents with less than one year or more than 20 years of experience tended to report the lowest turnover intentions, whereas those with 6–10 years of experience showed the highest. These patterns are illustrated in Figure 16.
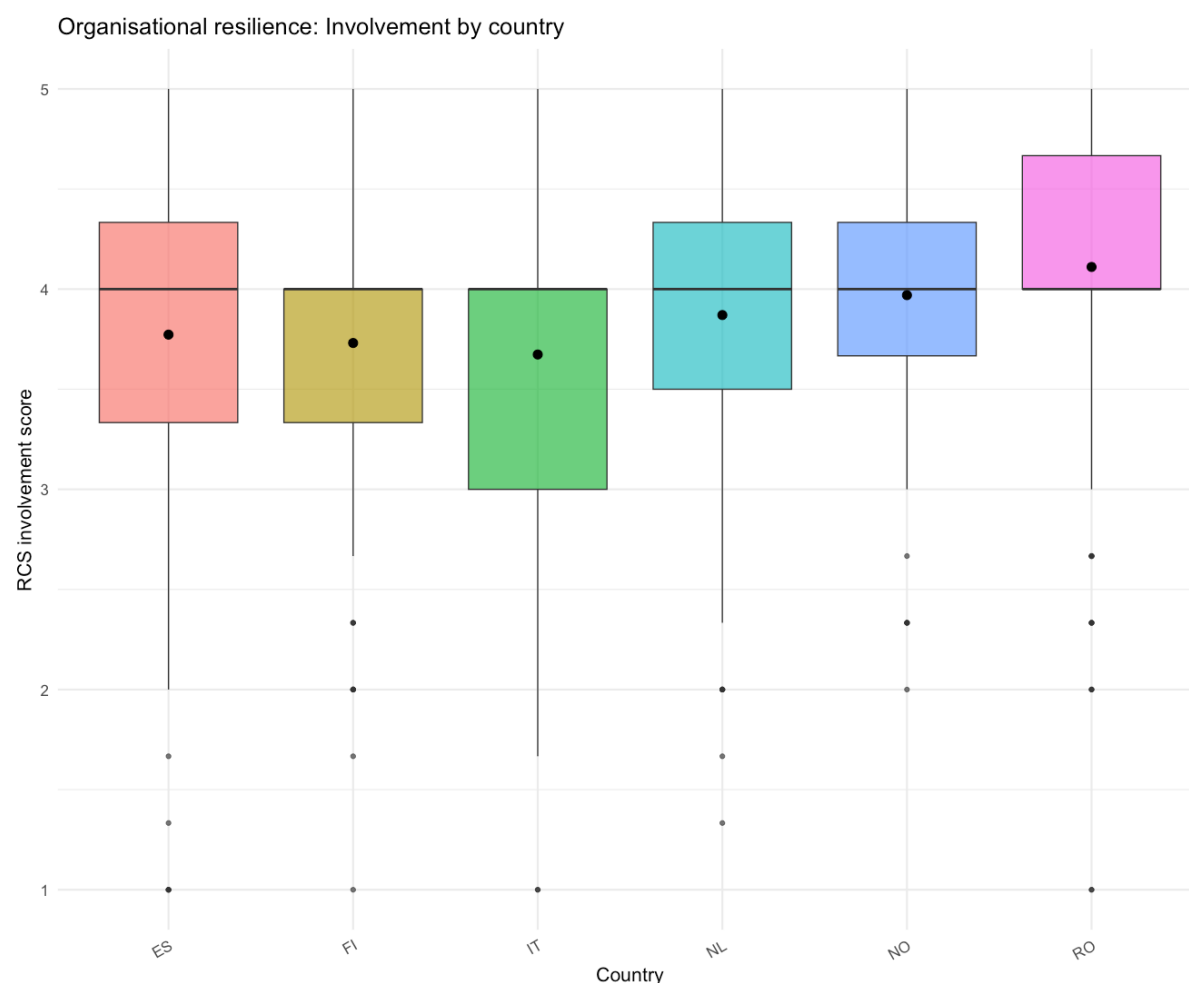
3.2.1.5 Organisational resilience

Figure 17. Analysis of Variance (ANOVA) of healthcare workers RCS Involvement score by country

Analysis of variance revealed that country was significantly associated with the involvement dimension of the organisational resilience scale, $F(5, 1238) = 10.01$, $p < .001$. This suggests that there are meaningful differences in involvement between the six countries included in the sample. Respondents in Romania reported the highest involvement scores, while those in Italy and Finland had the lowest. Other countries fell in between these extremes, as illustrated in Figure 17.
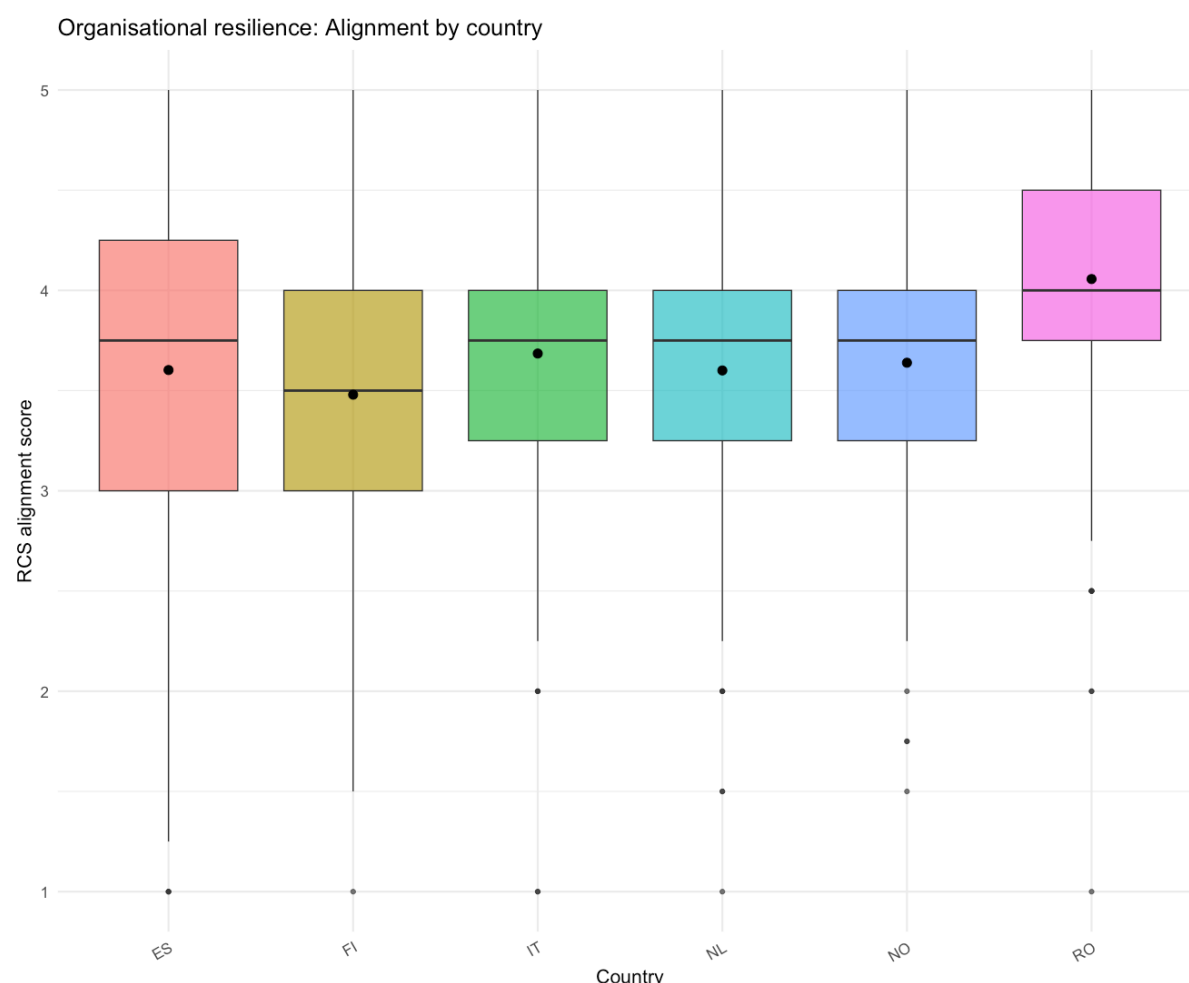
Figure 18. Analysis of Variance (ANOVA) of healthcare workers RCS Alignment score by country

Analysis of variance revealed that country was significantly associated with the alignment dimension of the organisational resilience scale, $F(5, 1238) = 16.82$, $p < .001$. This suggests that there are meaningful differences in alignment between the six countries included in the sample. While the differences between countries were statistically significant, alignment was rated relatively positively across all countries, with mean values clustering around the upper mid-point of the scale. Romania reported the strongest perceptions of alignment, whereas Finland and Spain showed comparatively weaker scores. In most countries, however, the wide variation in responses suggests notable within-country differences, as illustrated in Figure 18.
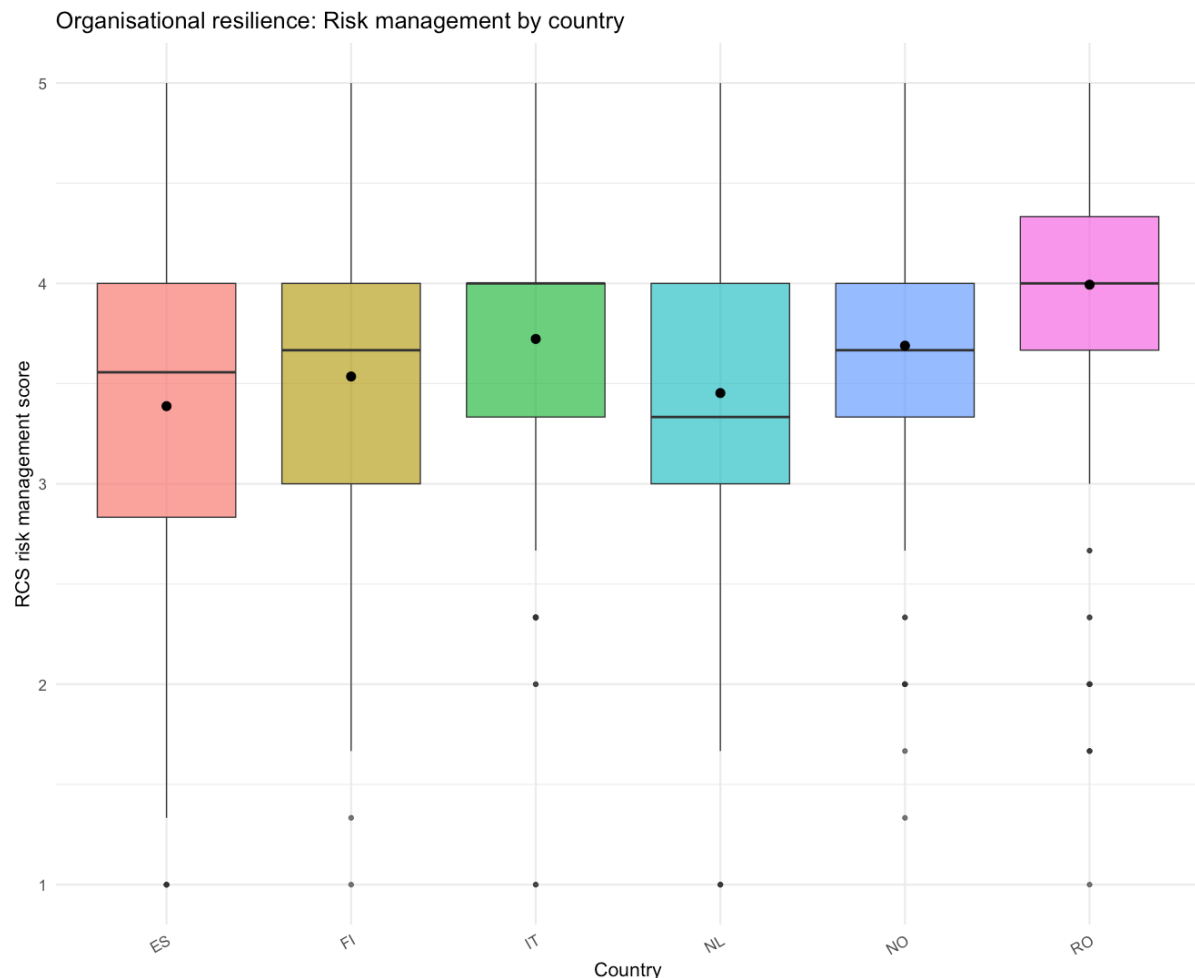
Figure 19. Analysis of Variance of healthcare workers RCS Risk Management score by country

Analysis of variance revealed that country was significantly associated with the risk management dimension of the organisational resilience scale, $F(5, 1238) = 19.34$, $p < .001$. This suggests that there are meaningful differences in risk management between the six countries included in the sample. Although mean values for risk management were generally above the midpoint of the scale, notable differences emerged between countries (Figure 19). Romania reported the highest scores, indicating strong perceptions of organisational risk management, while Spain and the Netherlands showed comparatively lower evaluations. The wide variability in some countries further suggests that experiences of risk management practices are not consistent across respondents.
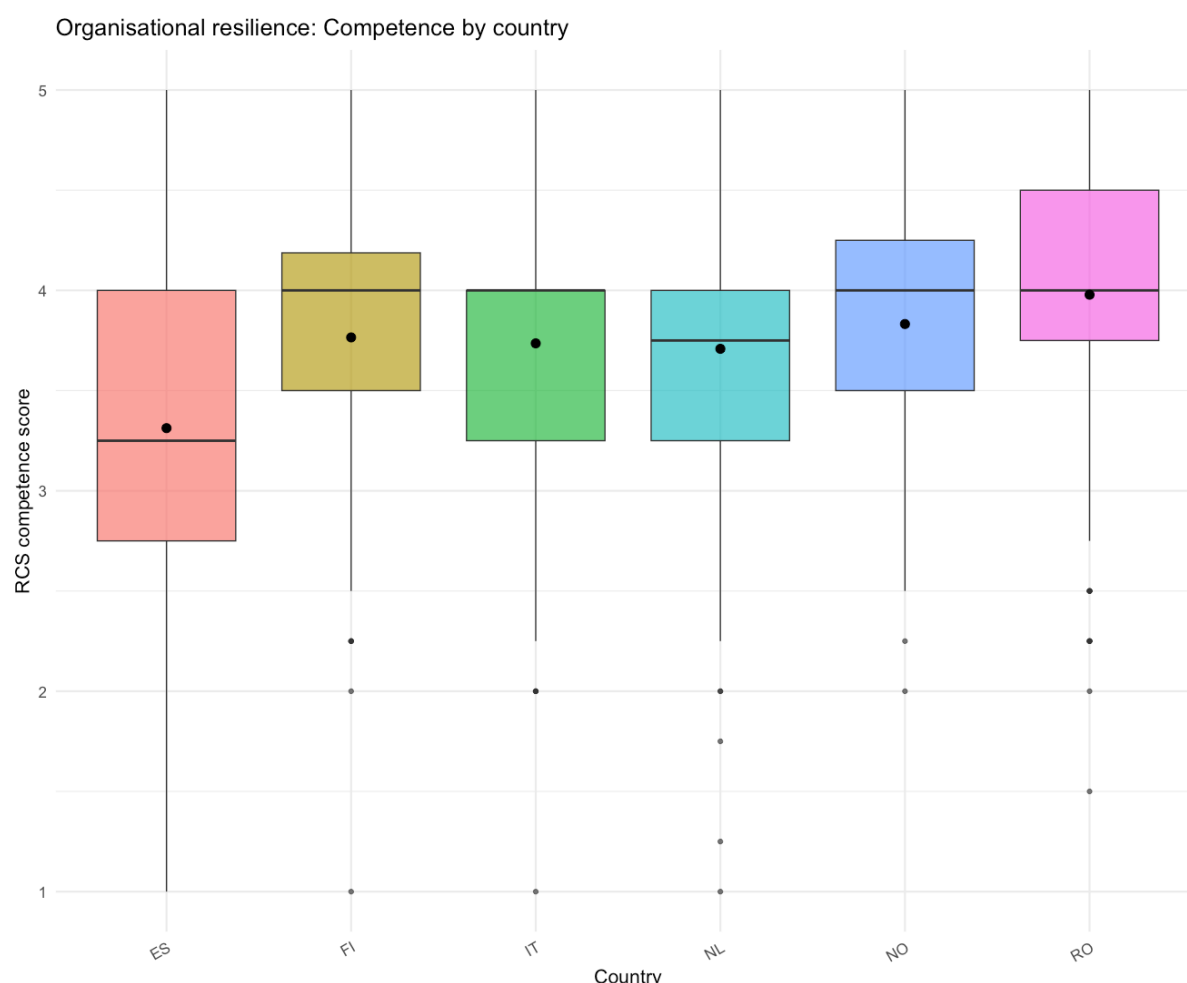
Figure 20. Analysis of Variance (ANOVA) of healthcare workers RCS Competence score by country

Analysis of variance revealed that country was significantly associated with the competence dimension of the organisational resilience scale, $F(5, 1238) = 20.63$, $p < .001$. This suggests that there are meaningful differences in competence between the six countries included in the sample. As shown in Figure 20, Romania and Norway reported the highest competence scores, followed closely by Finland, whereas Spain scored the lowest. These findings suggest that perceptions of organisational competence vary across countries. In Spain, responses tended to cluster closer to the neutral point with greater variability, while in Romania and Norway the evaluations leaned more positively.
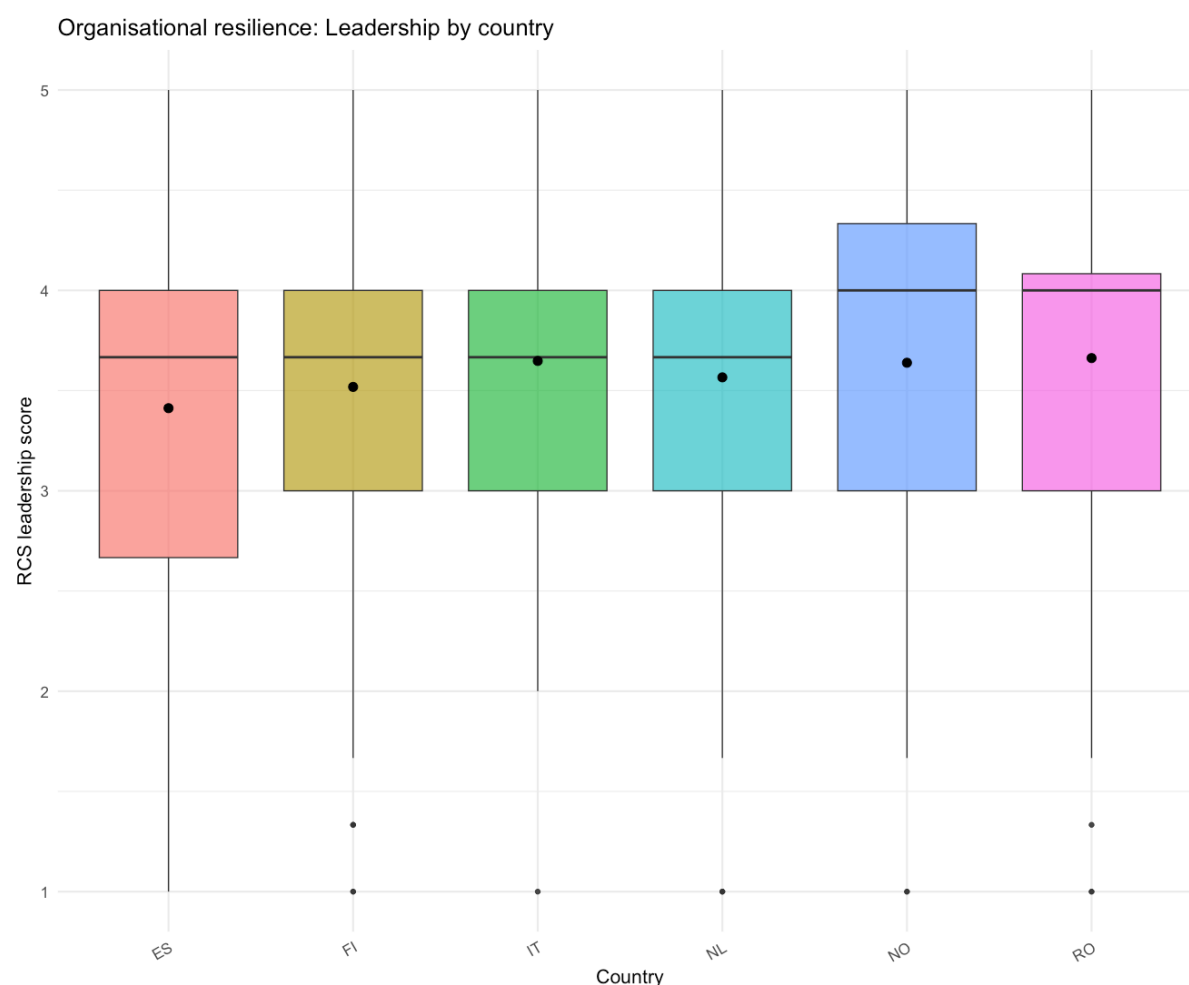
Figure 21. Analysis of Variance (ANOVA) of healthcare workers RCS Leadership score by country

Analysis of variance revealed that country was significantly associated with the leadership dimension of the organisational resilience scale, $F(5, 1238) = 2.29$, $p < .05$. This suggests that there are meaningful differences in leadership between the six countries included in the sample. Respondents in Norway and Romania reported the highest leadership scores, while Spain had the lowest. Finland, Italy, and the Netherlands fell in between these extremes, as illustrated in Figure 21. Although the differences were statistically significant, the overall variation in leadership scores between countries was relatively modest.
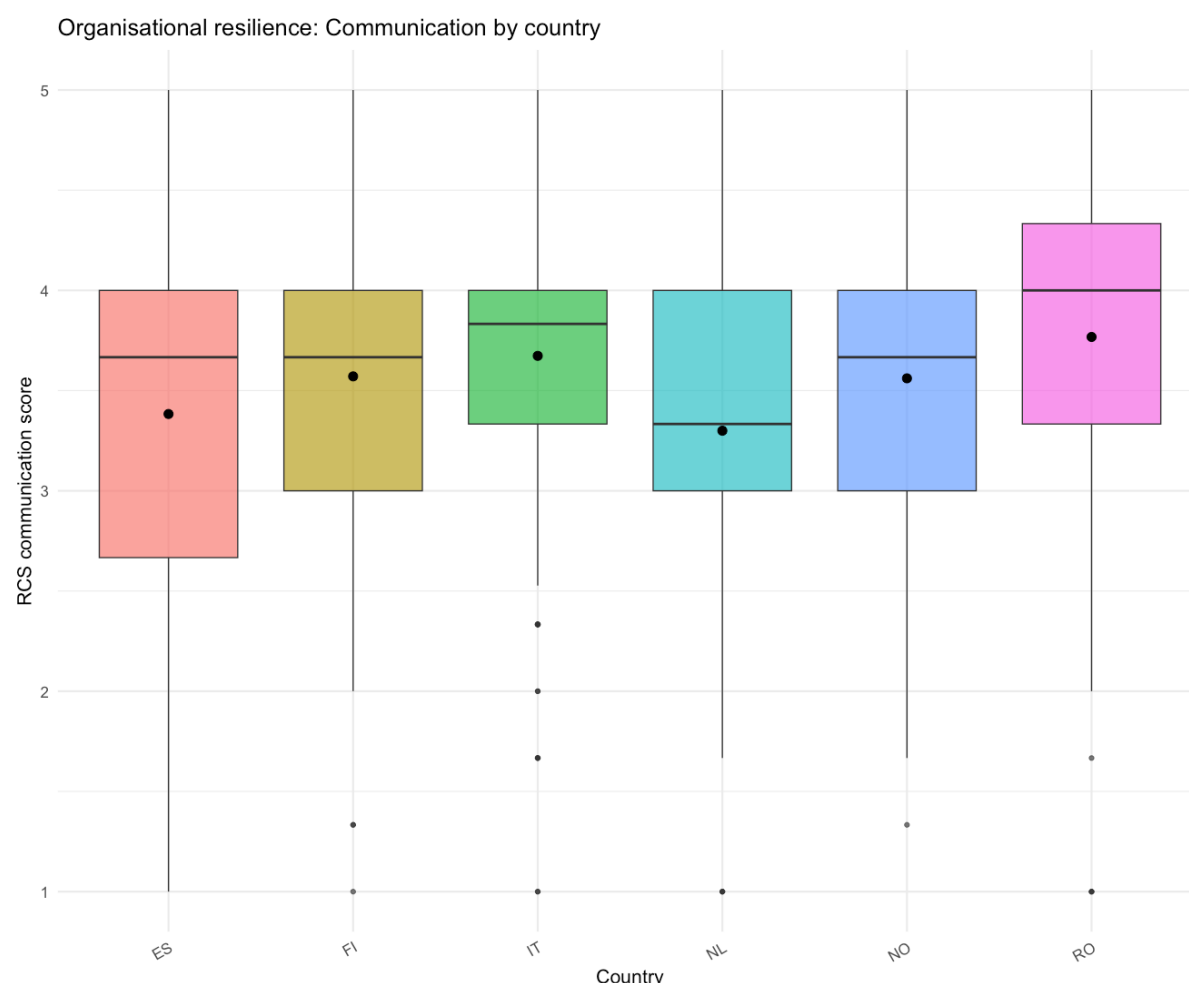
Figure 22. Analysis of Variance of healthcare workers RCS Communication score by country

Analysis of variance revealed that country was significantly associated with the communication dimension of the organisational resilience scale, $F(5, 1238) = 10.23$, $p < .05$. This suggests that there are meaningful differences in communication between the six countries included in the sample. Respondents in Romania reported the highest communication scores, whereas the Netherlands showed the lowest (Figure 22). These results suggest that perceptions of communication vary across countries, with particularly strong evaluations in Romania and weaker ones in the Netherlands. In Spain, the distribution of scores was notably wide, indicating greater variability in respondents' perceptions of communication within organisations.

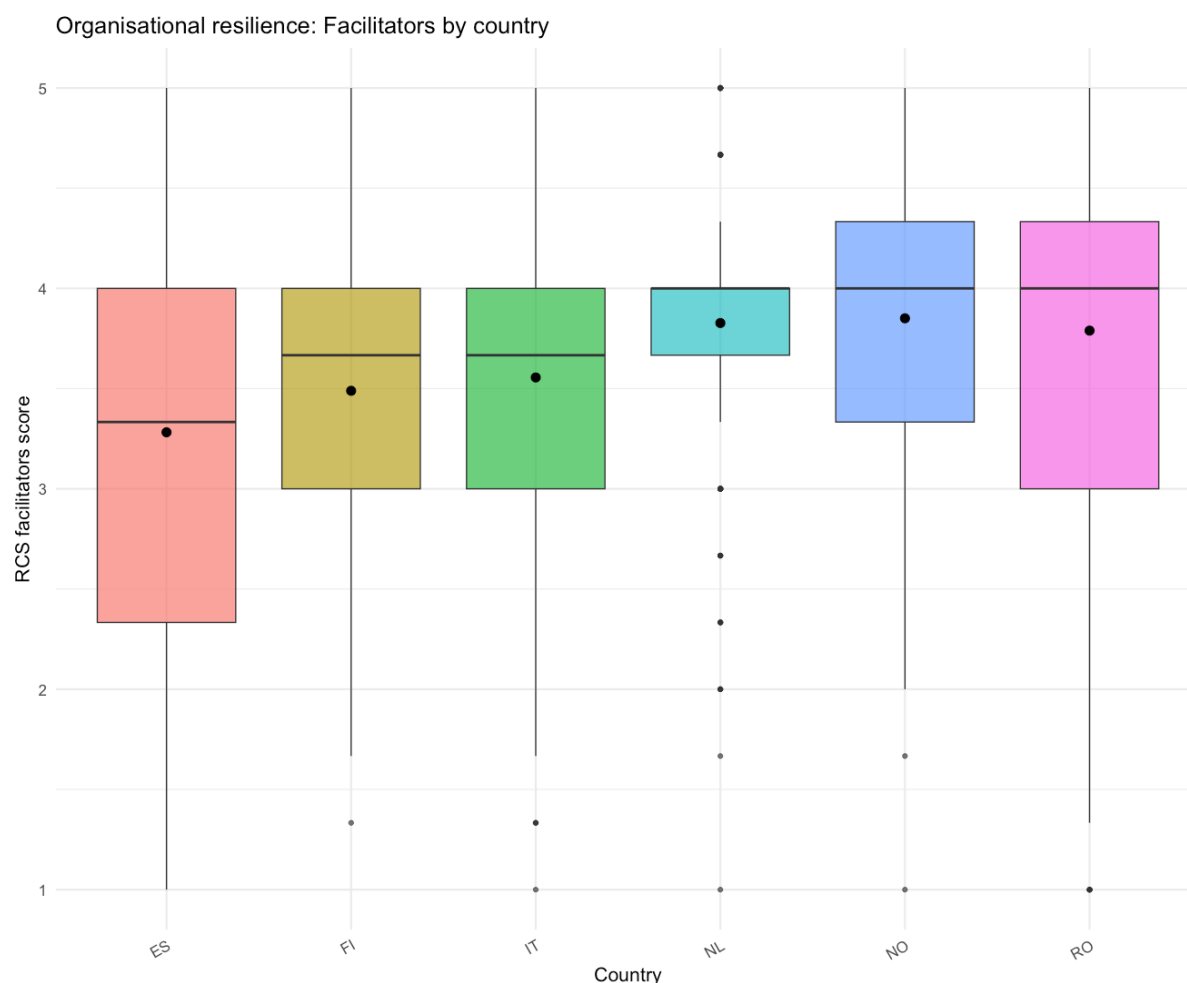Organisational resilience: Facilitators by country

Figure 23. Analysis of Variance (ANOVA) of healthcare workers RCS Facilitators score by country

Analysis of variance revealed that country was significantly associated with the facilitators dimension of the organisational resilience scale, F(5, 1238) = 14.79, p < .001. This suggests that there are meaningful differences in facilitators between the six countries included in the sample. R Respondents in Romania, Norway, and the Netherlands reported the highest facilitators scores, whereas Spain showed the lowest (Figure 23). This indicates that organisational facilitators are perceived to function more effectively in Romania, Norway, and the Netherlands compared to Spain. The wide distribution of scores in Spain and Romania suggests greater variability in perceptions. In the Netherlands, most respondents reported relatively high facilitators scores, indicating broadly positive perceptions of organisational support structures. However, the presence of several outliers suggests that a subset of respondents had markedly different experiences, either more negative or more positive, compared with the majority.
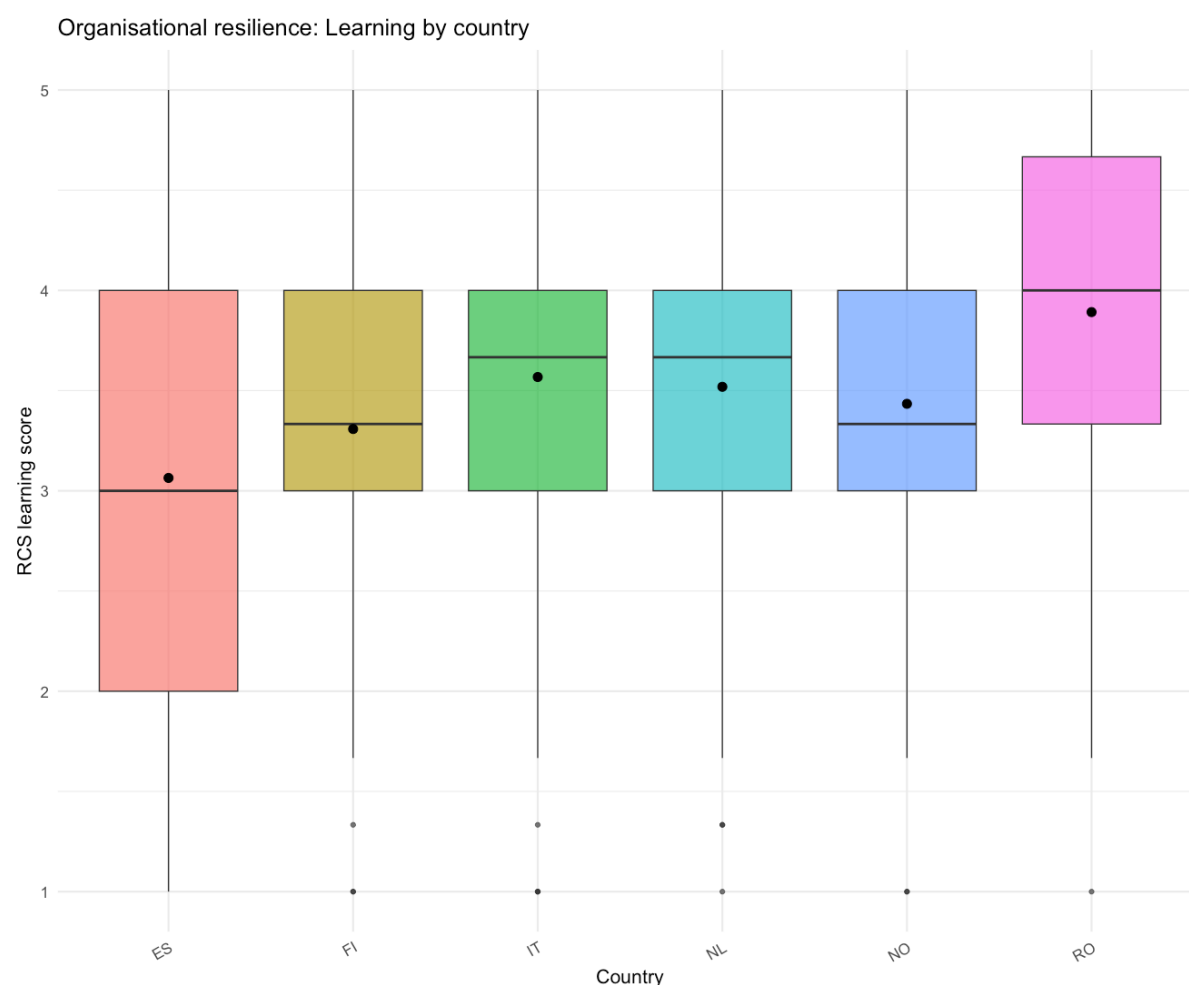
Figure 24. Analysis of Variance (ANOVA) of healthcare workers RCS Learning score by country

Analysis of variance revealed that country was significantly associated with the learning dimension of the organisational resilience scale, $F(5, 1238) = 23.31$, $p < .001$. This suggests that there are meaningful differences in learning between the six countries included in the sample. Respondents in Romania reported the highest learning scores, whereas those in Spain reported the lowest, with substantial variability within the Spanish sample. Other countries fell in between these extremes and clustered relatively closely together (Figure 24). The relatively close clustering of most countries indicates broadly comparable perceptions of learning, although the wider spread observed in Spain suggests more varied experiences among respondents.
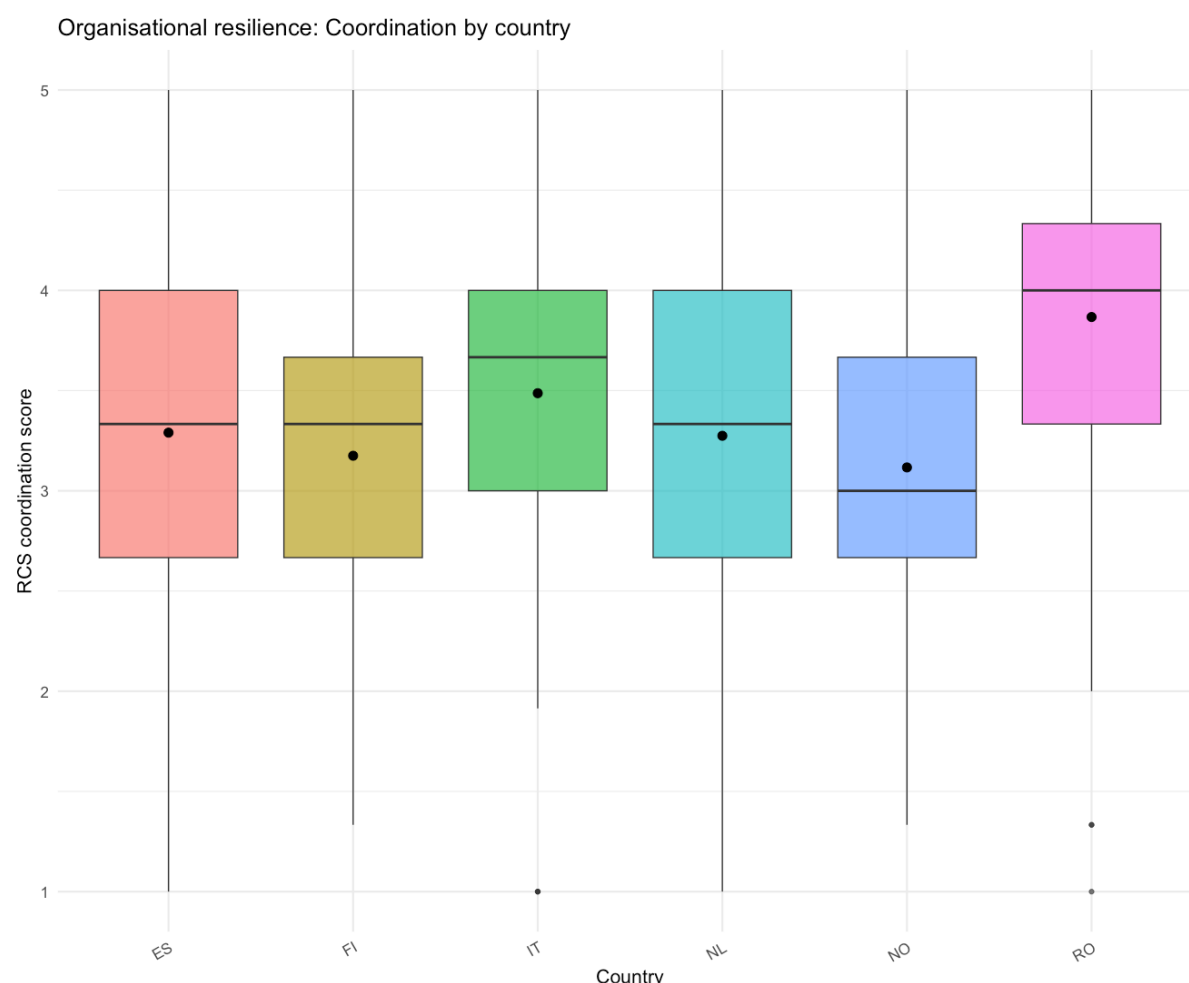
Figure 25. Analysis of Variance (ANOVA) of healthcare workers RCS Coordination score by country

Analysis of variance revealed that country was significantly associated with the coordination dimension of the organisational resilience scale, $F(5, 1238) = 27$, $p < .001$. This suggests that there are meaningful differences in coordination between the six countries included in the sample. Respondents in Romania reported the highest coordination scores, with relatively consistent evaluations across participants. In contrast, Finland and Norway displayed lower coordination scores. Overall, these findings suggest that coordination is perceived to function more effectively in Romania and Italy, whereas in Finland and Norway evaluations lean closer to neutral (Figure 25).
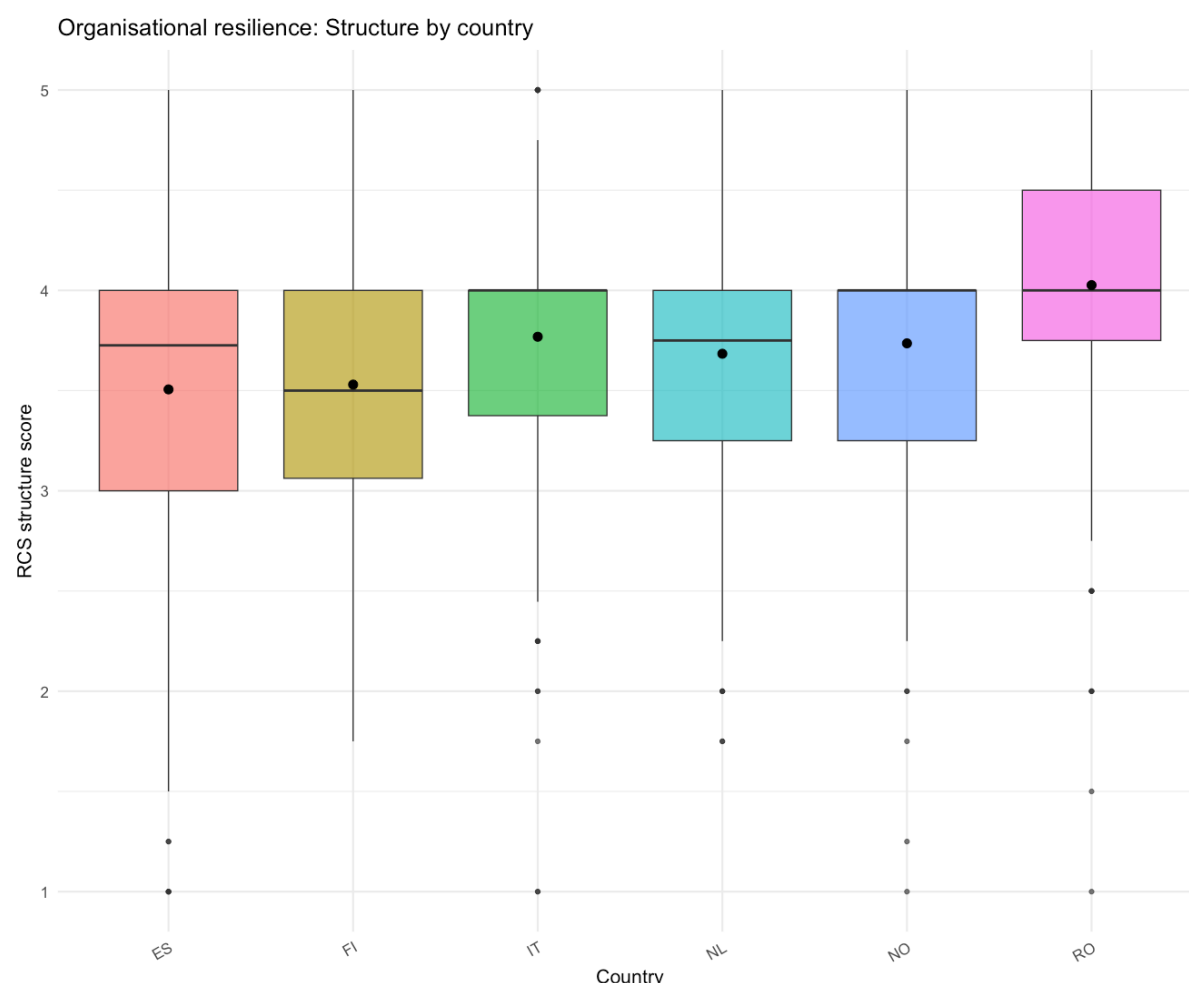
Figure 26. Analysis of Variance (ANOVA) of healthcare workers RCS Structure score by country

Analysis of variance revealed that country was significantly associated with the structure dimension of the organisational resilience scale, F(5, 1238) = 14.81, p < .001. This suggests that there are meaningful differences in structure between the six countries included in the sample. Respondents in Romania reported the highest structure scores. In contrast, Finland and Spain displayed somewhat lower scores, with Spain showing little more wide variability. Importantly, across all countries the results lean clearly towards the positive side of the scale, suggesting that organisational structures are generally perceived more favourably than neutral. Overall, these findings highlight both cross-country differences and a shared tendency towards positive evaluations of organisational structure (Figure 26).

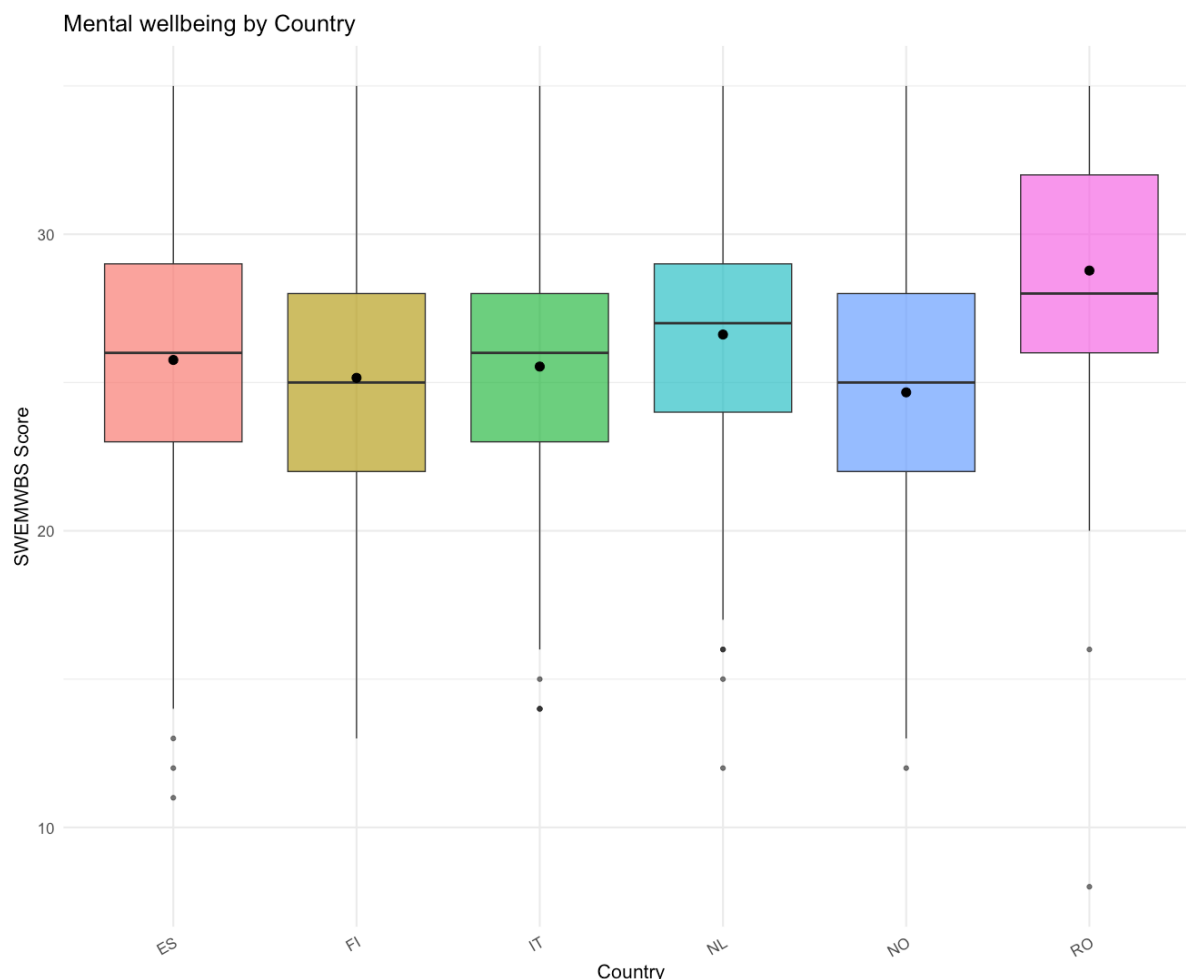## 3.2.2 Informal caregivers

3.2.2.1 Mental wellbeing

Figure 27. Analysis of Variance (ANOVA) of Informal caregivers SWEMWBS score by country

Analysis of variance revealed that country was significantly associated with SWEMWBS wellbeing scores, $F(5, 1593) = 32.6$, $p < .001$. This suggests that there are meaningful differences in wellbeing between the six countries included in the sample. Respondents in Romania reported the highest wellbeing scores, with median values clearly above those observed in other countries, whereas Norway showed the lowest scores. The distributions also varied across countries, with Spain and Norway showing wider variability, suggesting more heterogeneous wellbeing perceptions among respondents. Overall, these results indicate that mental wellbeing is not evenly distributed across countries, with some contexts associated with more favourable outcomes than others (Figure 27).
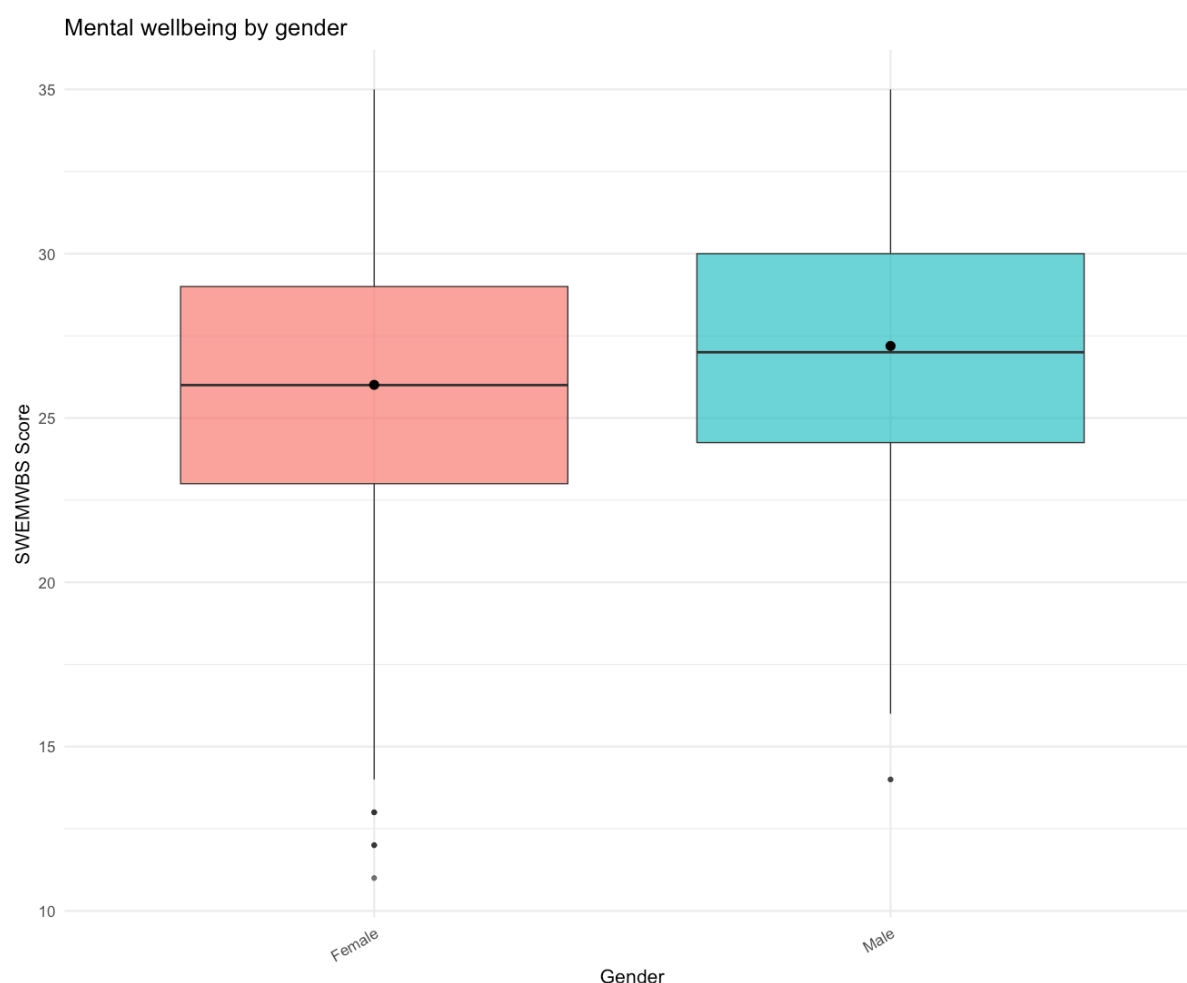
Figure 28. Analysis of Variance (ANOVA) of Informal caregivers SWEMWBS score by gender

Analysis of variance revealed that gender was significantly associated with SWEMWBS wellbeing scores, $F(1, 1585) = 22.8$, $p < .001$. This suggests that there are meaningful differences in wellbeing between male and female respondents included in the sample. Both groups reported scores above the scale midpoint, suggesting generally positive mental wellbeing overall. Male respondents reported slightly higher median scores than females, although the distributions for both genders largely overlapped. The presence of lower outliers among female respondents indicates that some women experienced substantially poorer wellbeing compared to the average, contributing to the observed gender differences (Figure 28).
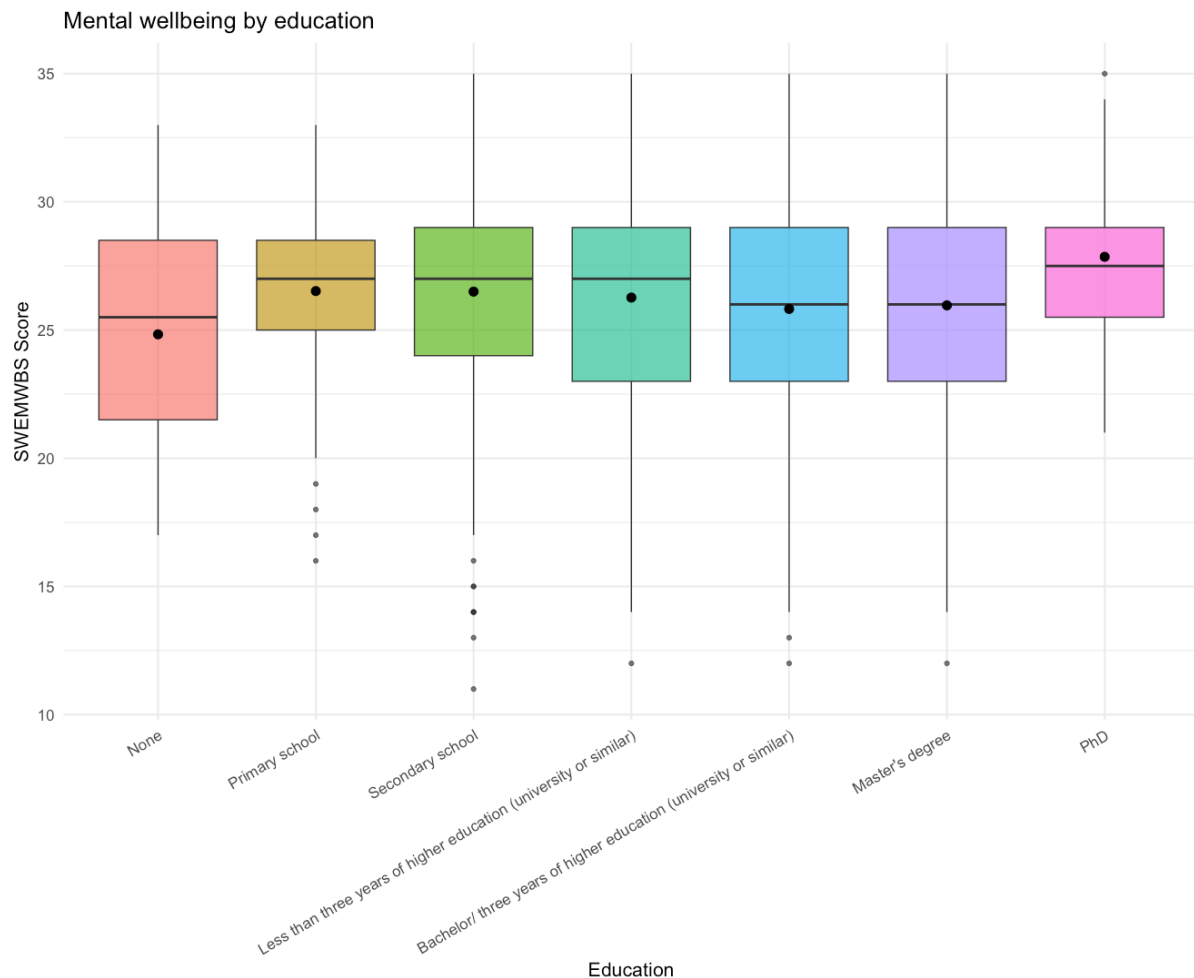
Figure 29. Analysis of Variance (ANOVA) of Informal caregivers SWEMWBS score by education

Analysis of variance revealed that education was significantly associated with SWEMWBS wellbeing scores, $F(5, 1232) = 4.95$, $p < .001$. This suggests that there are meaningful differences in wellbeing between the education levels included in the sample. All education groups reported scores above the scale midpoint, reflecting generally positive wellbeing overall. Respondents with a PhD and those with secondary school education reported the highest median wellbeing scores, whereas participants with no formal education reported the lowest. The pattern of results indicates that the relationship between education and wellbeing is not strictly linear: wellbeing appears relatively high among respondents with secondary school education and those with less than three years of higher education, but shows a modest decrease among those with bachelor's and master's degrees before rising again at the PhD level. Figure 29 illustrates these differences as well as the variability within groups.
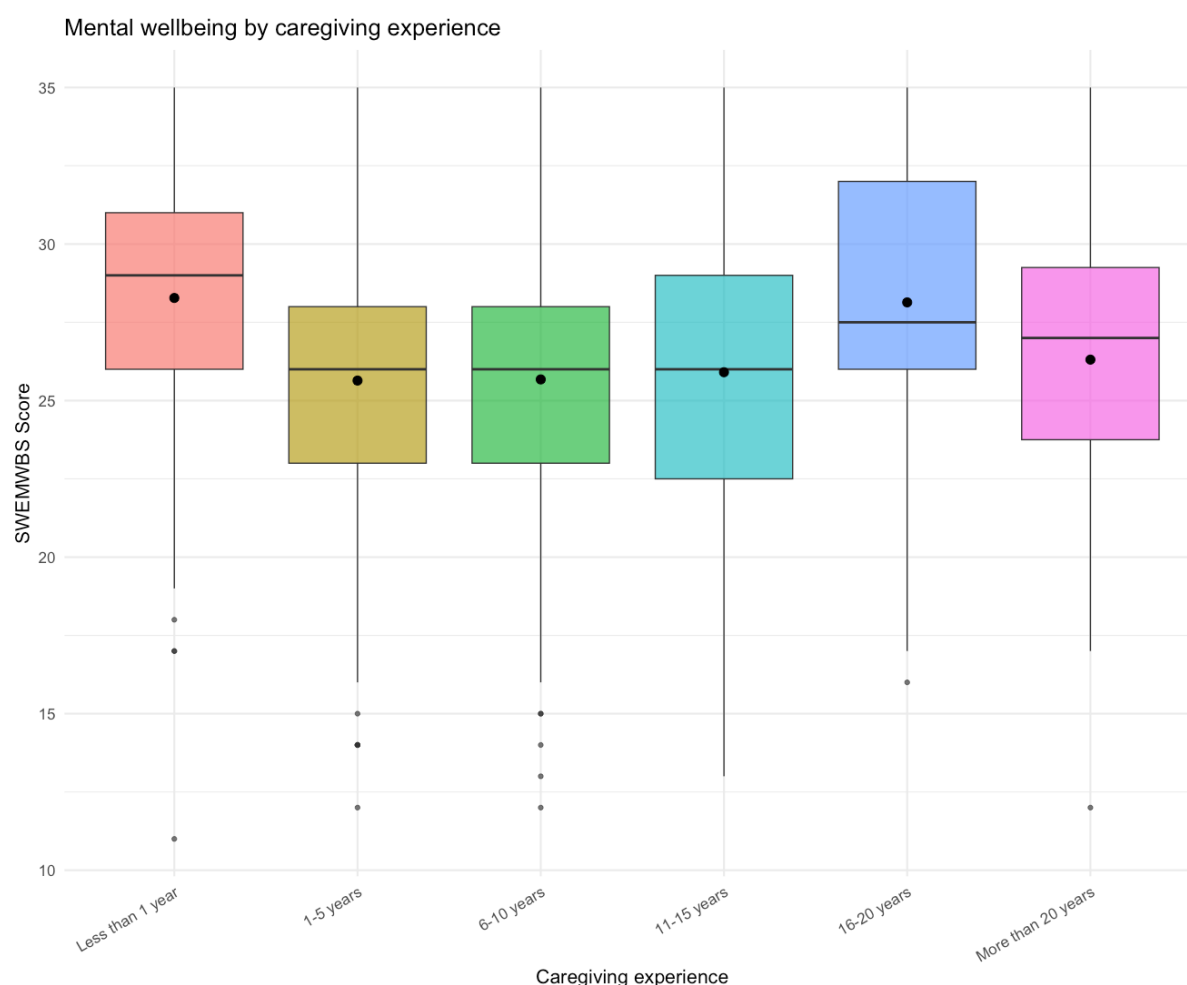
Figure 30. Analysis of Variance of Informal caregivers SWEMWBS score by caregiving experience

Analysis of variance revealed that caregiving experience was significantly associated with SWEMWBS wellbeing scores, $F(5, 1582) = 8.24$, $p < .001$. This suggests that there are meaningful differences in mental wellbeing between the caregiving experience levels included in the sample. Respondents with less than one year of caregiving experience reported relatively high wellbeing scores, whereas those with 1–10 years of experience reported lower median scores. Wellbeing then appeared to increase again among those with 16–20 years of caregiving experience, who showed the highest median scores, before declining slightly in the group with more than 20 years of experience. These findings indicate a non-linear association between caregiving experience and wellbeing, suggesting that both very short and very long caregiving durations may be linked to comparatively higher wellbeing, while intermediate durations correspond to lower scores. Figure 30 illustrates these patterns and highlights the variability within groups.
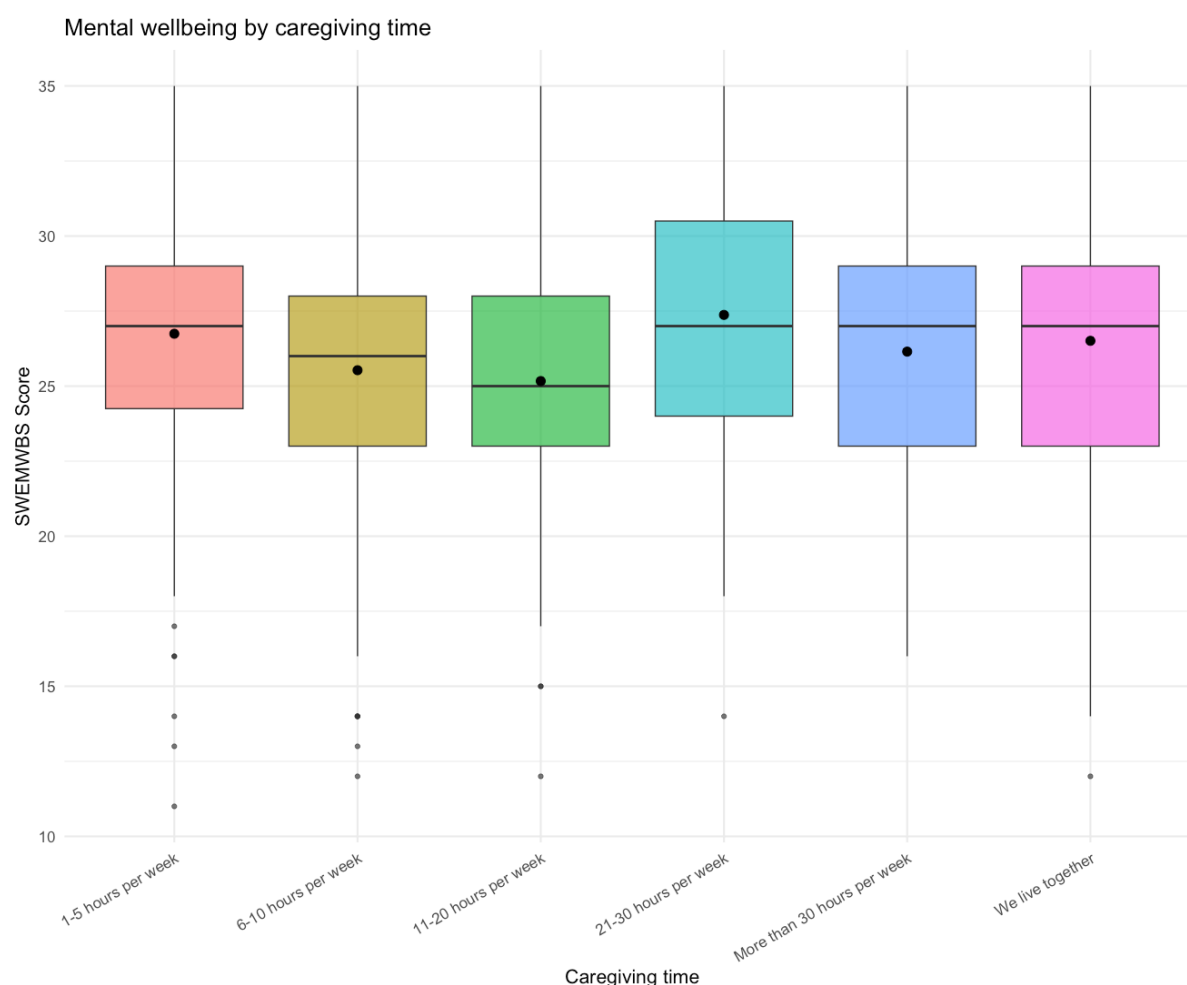
Figure 31. Analysis of Variance (ANOVA) of Informal caregivers SWEMWBS score by caregiving time

Analysis of variance revealed that caregiving time, intended as the amount of time spent weekly on caregiving, was significantly associated with SWEMWBS wellbeing scores, $F(5, 1580) = 4.8$, $p < .001$. This suggests that there are meaningful differences in mental wellbeing between the caregiving time levels included in the sample. Respondents providing 21–30 hours of care per week reported the highest wellbeing scores, whereas those providing between 11–20 hours showed the lowest median wellbeing. Interestingly, respondents with very high caregiving commitments (more than 30 hours per week or living together with the care recipient) reported wellbeing scores closer to the overall sample average, rather than particularly low scores. These findings suggest that the relationship between caregiving time and wellbeing is not strictly linear, and that moderate caregiving demands may be associated with lower wellbeing compared to both lighter and very intensive caregiving. Figure 31 illustrates these differences and highlights the variability within groups.
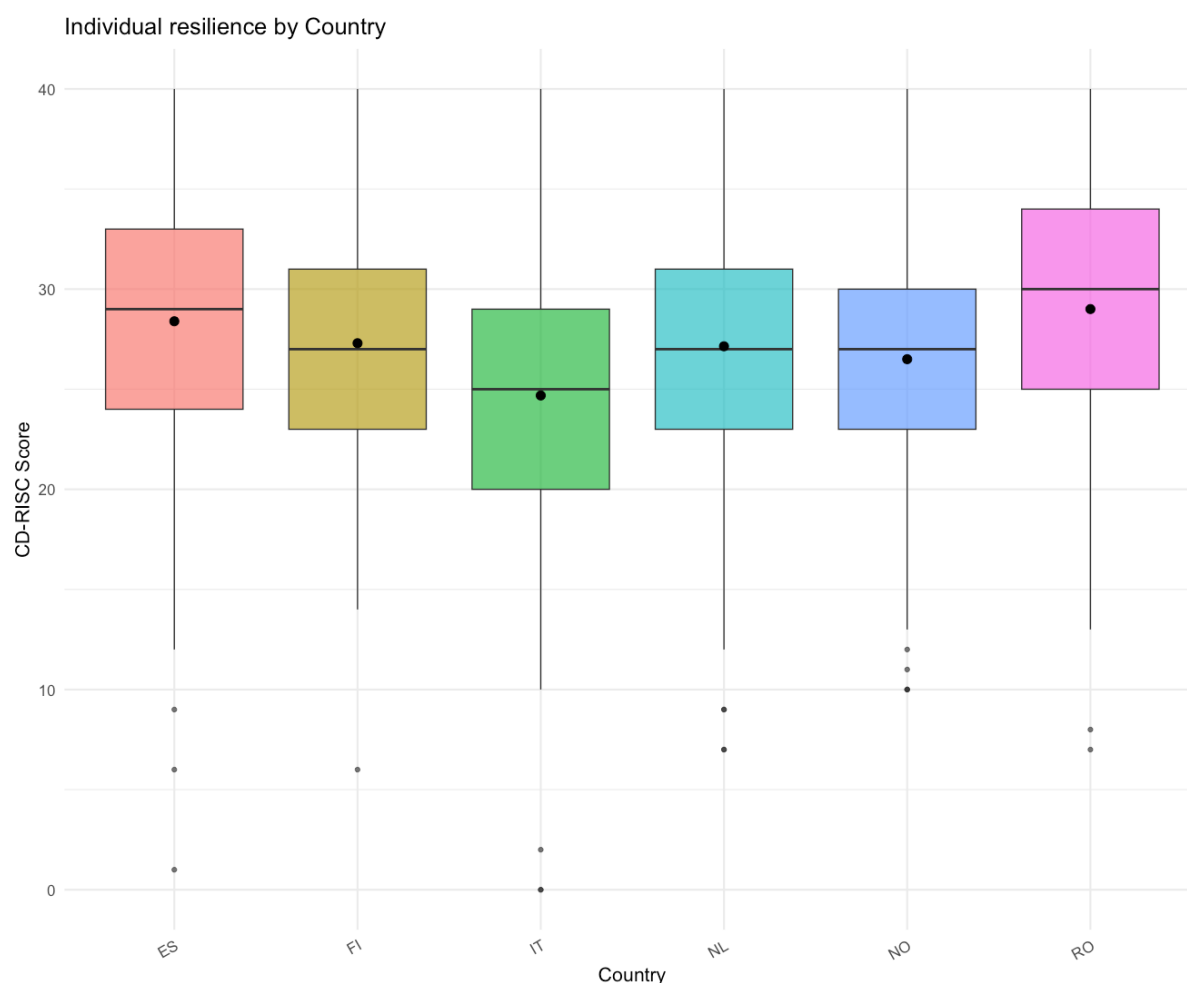
3.2.2.2 Individual resilience

Figure 32. Analysis of Variance (ANOVA) of Informal caregivers CD-RISC score by country

Analysis of variance revealed that country was significantly associated with CD-RISC individual resilience scores, $F(5, 1593) = 12.66$, $p < .001$. This suggests that there are meaningful differences in individual resilience between the six countries included in the sample. Respondents in Romania and Spain reported the highest median resilience scores, whereas those in Italy showed the lowest. Finland, the Netherlands and Norway clustered closer to the middle, with relatively similar distributions. The wide spread of scores observed in countries such as Spain and Romania suggests greater variability in individual experiences of resilience, whereas countries like Italy displayed lower central values alongside a narrower distribution. Taken together, these findings indicate that although resilience levels are generally positive across countries, notable cross-national differences exist, both in central tendency and in the degree of heterogeneity. Figure 32 illustrates these patterns.
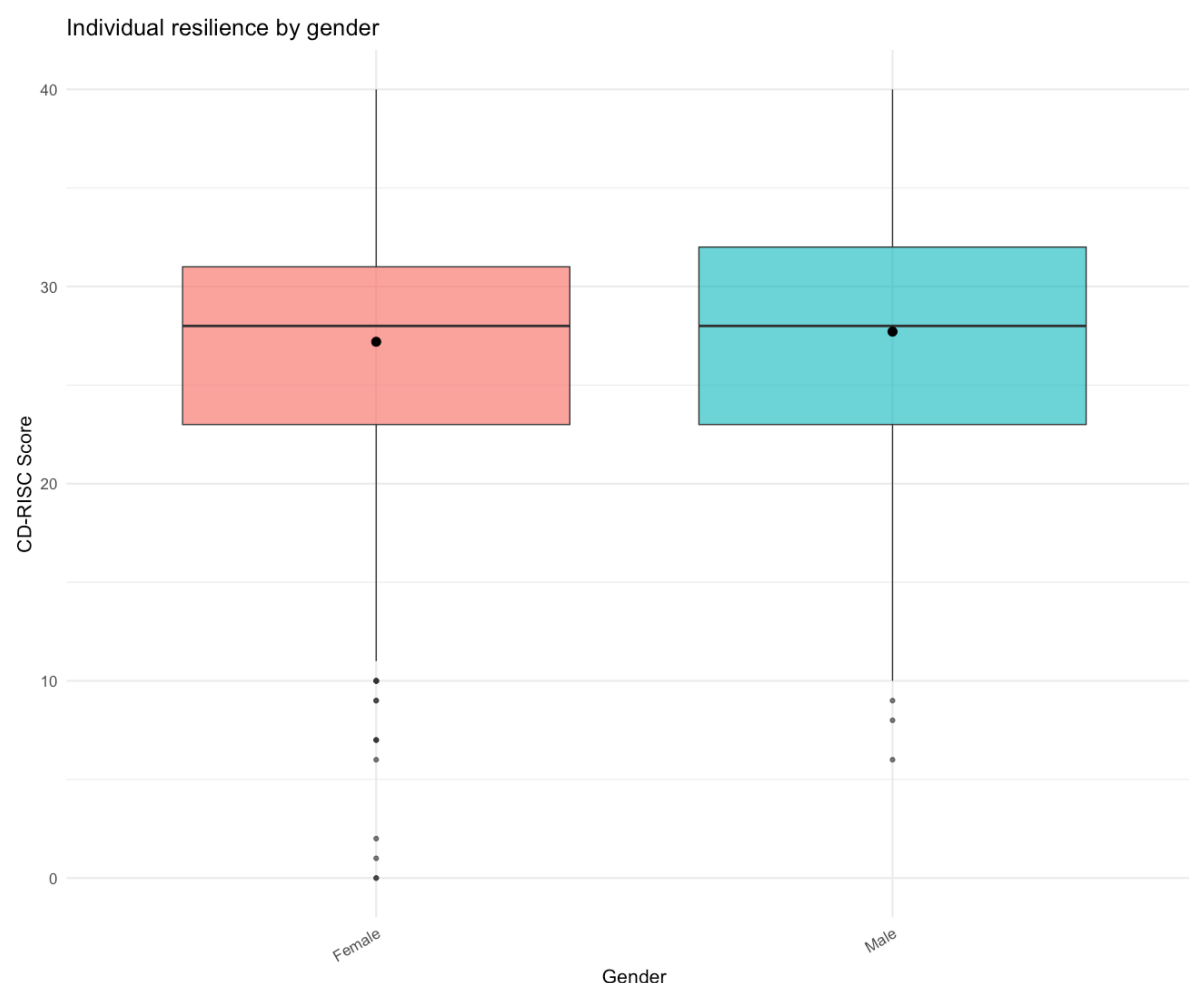
Figure 33. Analysis of Variance (ANOVA) of Informal caregivers CD-RISC score by gender

Analysis of variance revealed that gender was not significantly associated with CD-RISC individual resilience scores, $F(1, 1585) = 1.87$, $p = .172$. This suggests that there are no meaningful differences in individual resilience between male and female respondents included in the sample. As shown in Figure 33, both groups reported broadly similar distributions of resilience scores, with medians and means clustering close together. The spread of scores was also comparable, indicating that resilience, as measured by this scale, appears to be relatively stable across gender.
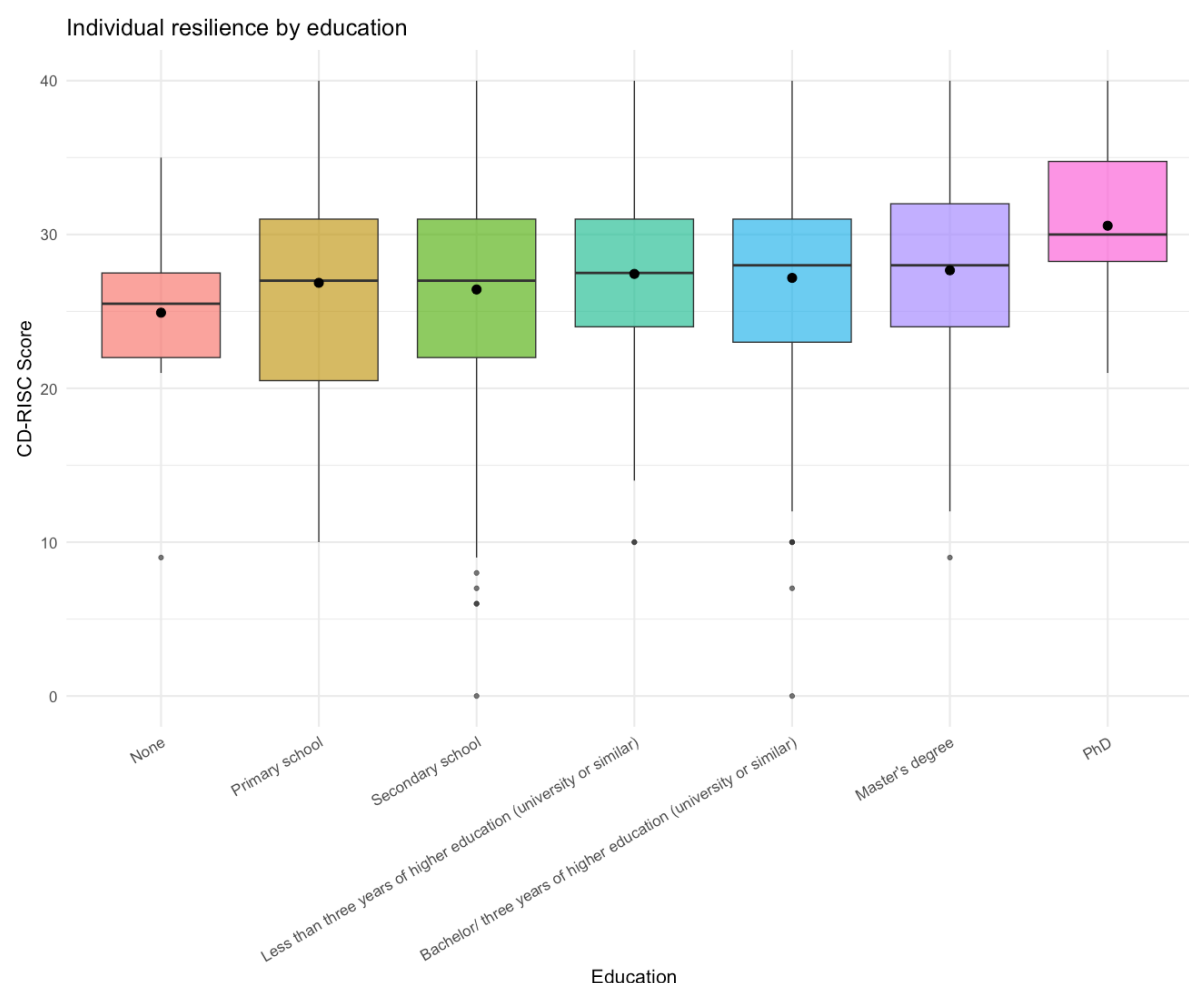
Figure 34. Analysis of Variance (ANOVA) of Informal caregivers CD-RISC score by education

Analysis of variance revealed that education level was significantly associated with CD-RISC individual resilience scores, $F(6, 1578) = 2.54$, $p < .05$. This suggests that there are meaningful differences in individual resilience between the respondents' levels of education. As shown in Figure 34, respondents with no formal education reported the lowest resilience scores, while those with a PhD reported the highest, with medians clearly above the other groups. Across the other education levels, scores tended to cluster around the mid-to-upper range of the scale, with broadly overlapping distributions. These findings indicate that individual resilience is generally higher among respondents with higher education, although the overall pattern is not strictly linear.
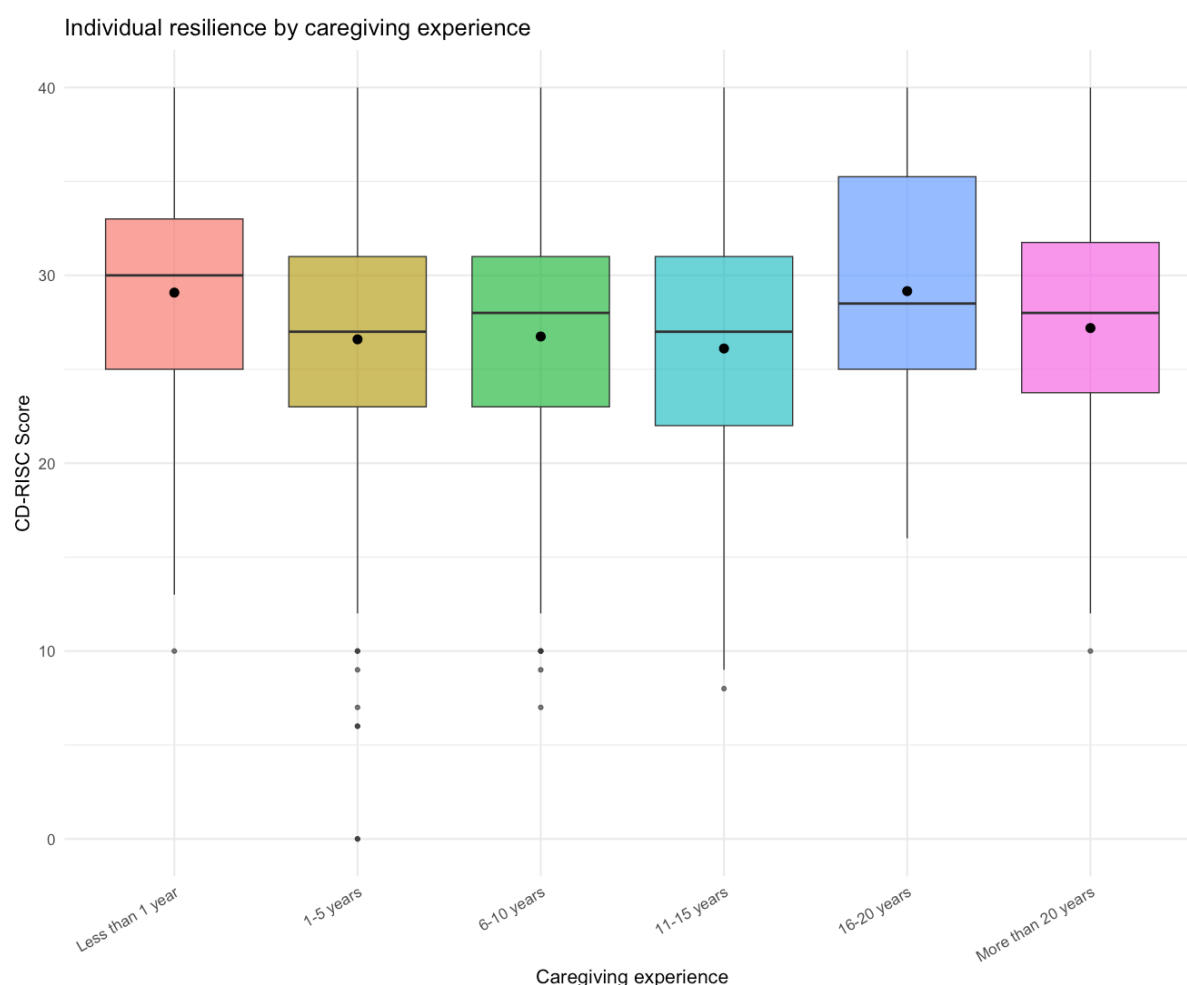
Figure 35. Analysis of Variance of Informal caregivers CD-RISC score by caregiving experience

Analysis of variance revealed that caregiving experience was significantly associated with CD-RISC individual resilience scores, $F(5, 1582) = 3.62$, $p < .01$. This suggests that there are meaningful differences in individual resilience between the caregiving experience levels included in the sample. As shown in Figure 35, respondents with less than one year of caregiving experience reported the highest resilience scores, while those with 1–5 years of experience reported the lowest. Beyond this, resilience scores tended to increase again with longer caregiving experience, with respondents in the 16–20 years group showing particularly high median scores. These findings suggest a non-linear association, in which resilience may initially decrease with early caregiving responsibilities but strengthen with prolonged experience. At the same time, considerable variability across all groups indicates that caregiving experience does not uniformly shape resilience, and individual differences remain substantial.
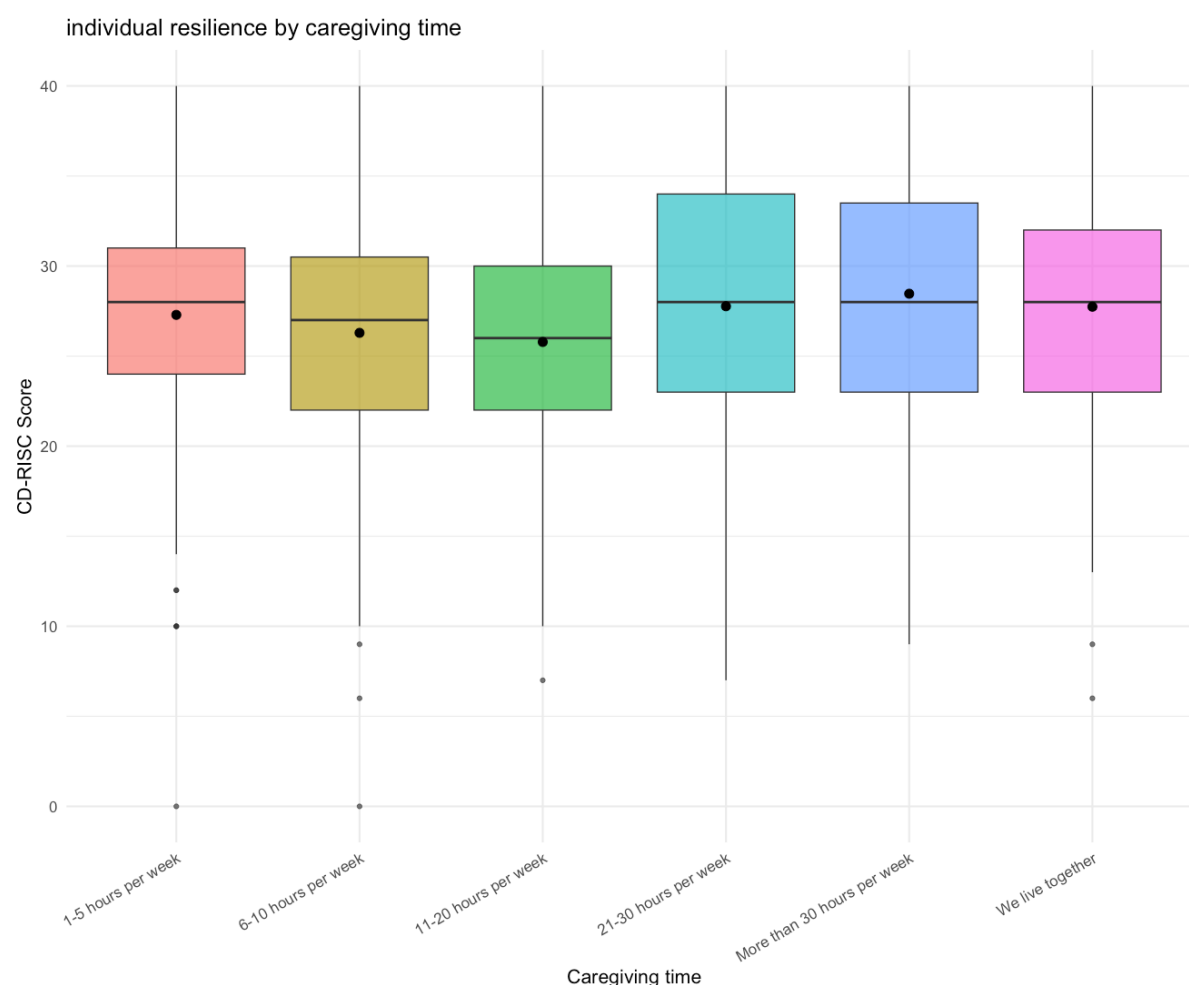
individual resilience by caregiving time

Figure 36. Analysis of Variance (ANOVA) of Informal caregivers CD-RISC score by caregiving time

Analysis of variance revealed that caregiving time was significantly associated with CD-RISC individual resilience scores, $F(5, 1580) = 3.42$, $p < .01$. This suggests that there are meaningful differences in individual resilience between the caregiving time levels included in the sample. Respondents providing more than 30 hours of caregiving per week reported the highest median resilience scores, followed closely by those in the 1–5 hours group, whereas those in the 6–10 and 11–20 hours groups showed comparatively lower levels. These findings suggest that resilience may be strengthened either when caregiving demands are very high, possibly due to adaptation and coping mechanisms, or when demands are relatively low, while intermediate levels of caregiving time are associated with weaker resilience. Figure 34 illustrates these patterns and the variability within groups.
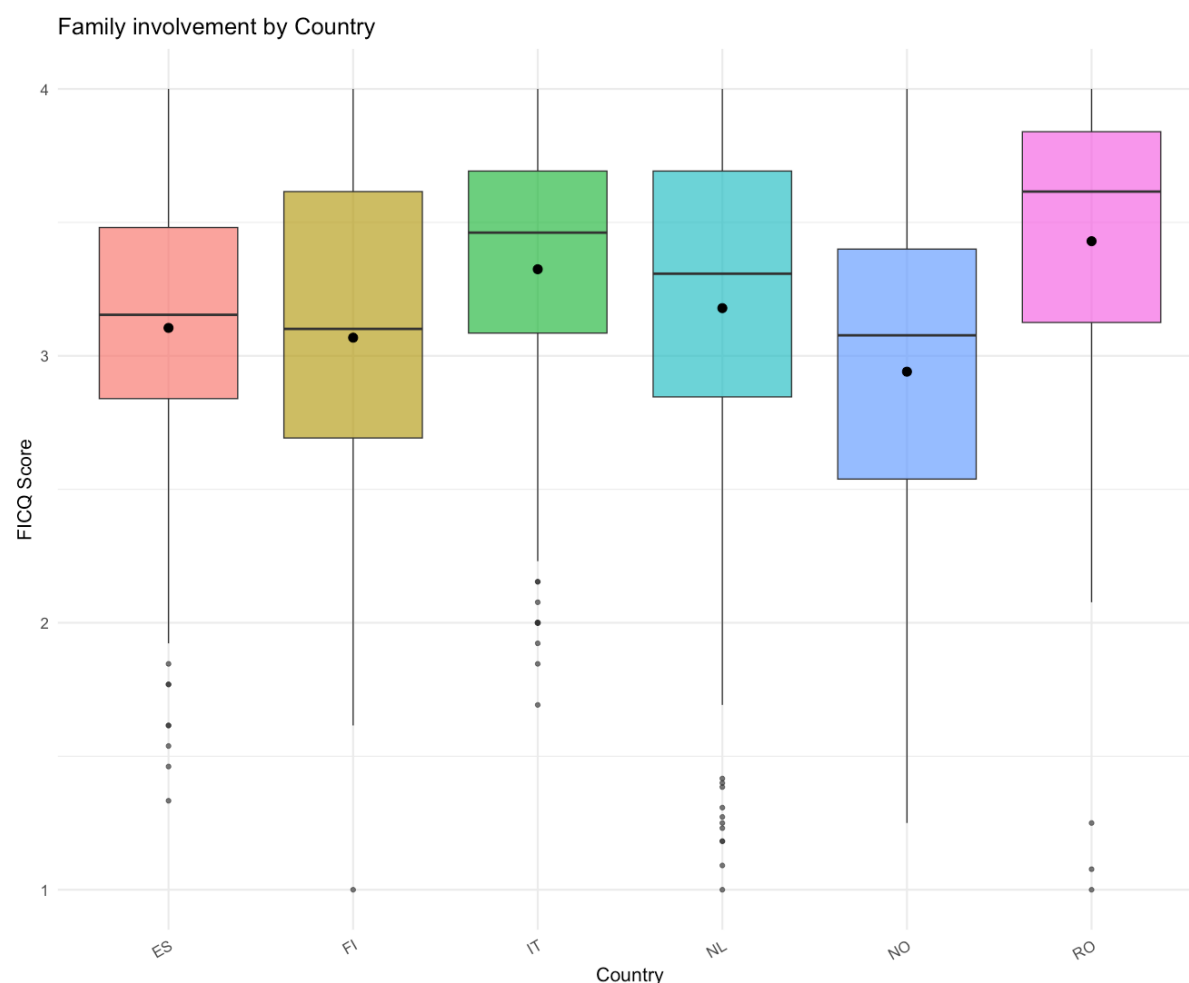
3.2.2.3 Family involvement

Figure 37. Analysis of Variance (ANOVA) of Informal caregivers FICQ score by country

Analysis of variance revealed that country was significantly associated with FICQ scores for family involvement, $F(5, 1588) = 21.85$, $p < .001$. This suggests that there are meaningful differences in family involvement across the six countries included in the sample. Respondents in Romania reported the highest levels of family involvement, followed by Italy and the Netherlands, whereas Norway and Finland scored lowest. These results indicate that perceptions of family involvement vary considerably between countries (Figure 35).
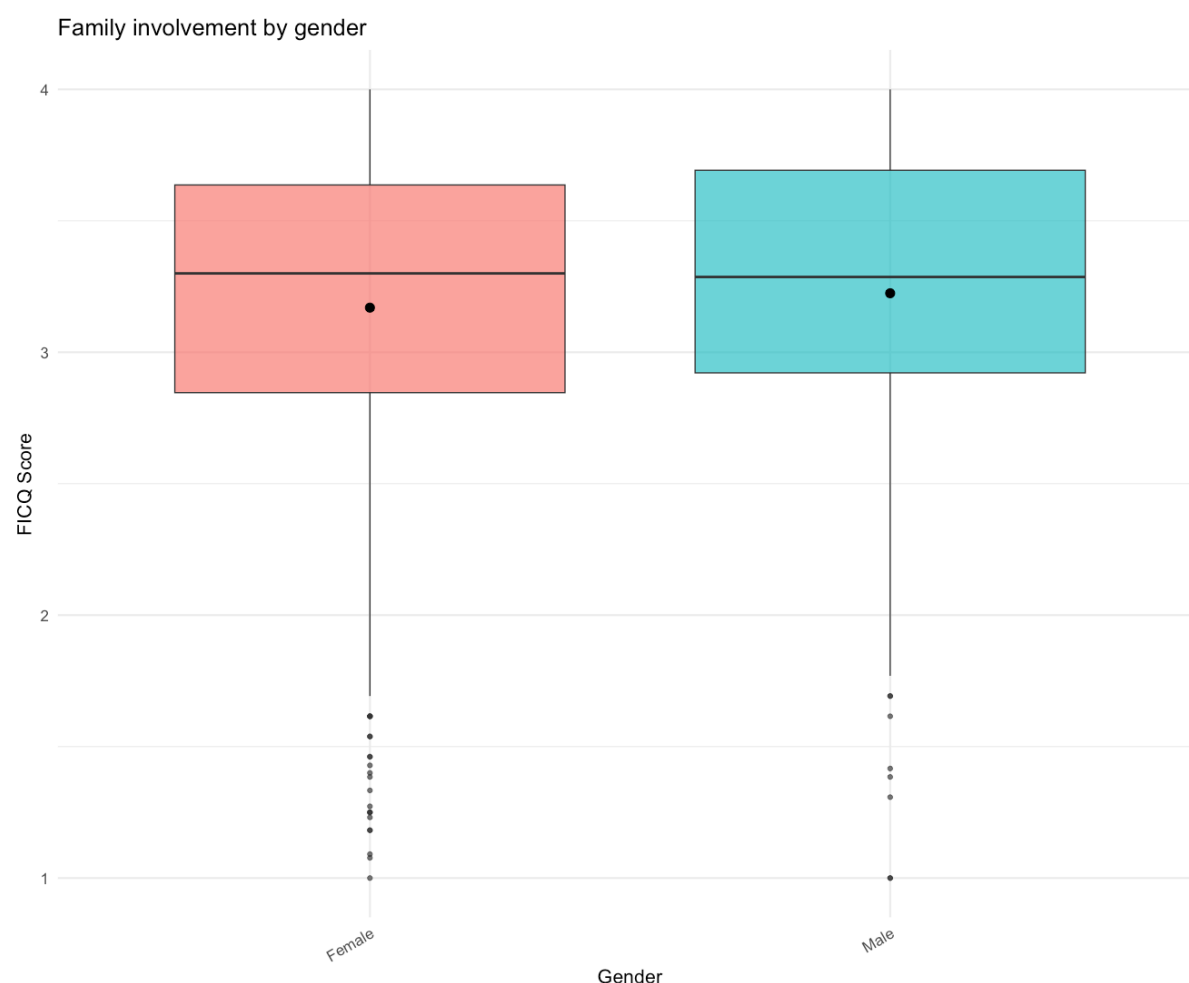
Figure 38. Analysis of Variance (ANOVA) of Informal caregivers FICQ score by gender

Analysis of variance revealed that gender was not significantly associated with the FICQ score for family involvement, $F(1, 1581) = 2.43$, $p = .119$. This suggests that there are no meaningful differences in family involvement between male and female respondents included in the sample. Overall, median scores for both groups were in the higher range of the scale, indicating that family members generally perceived themselves as being sufficiently involved. While women tended to report slightly lower scores - suggesting marginally lower involvement - this difference was not statistically significant (Figure 38).
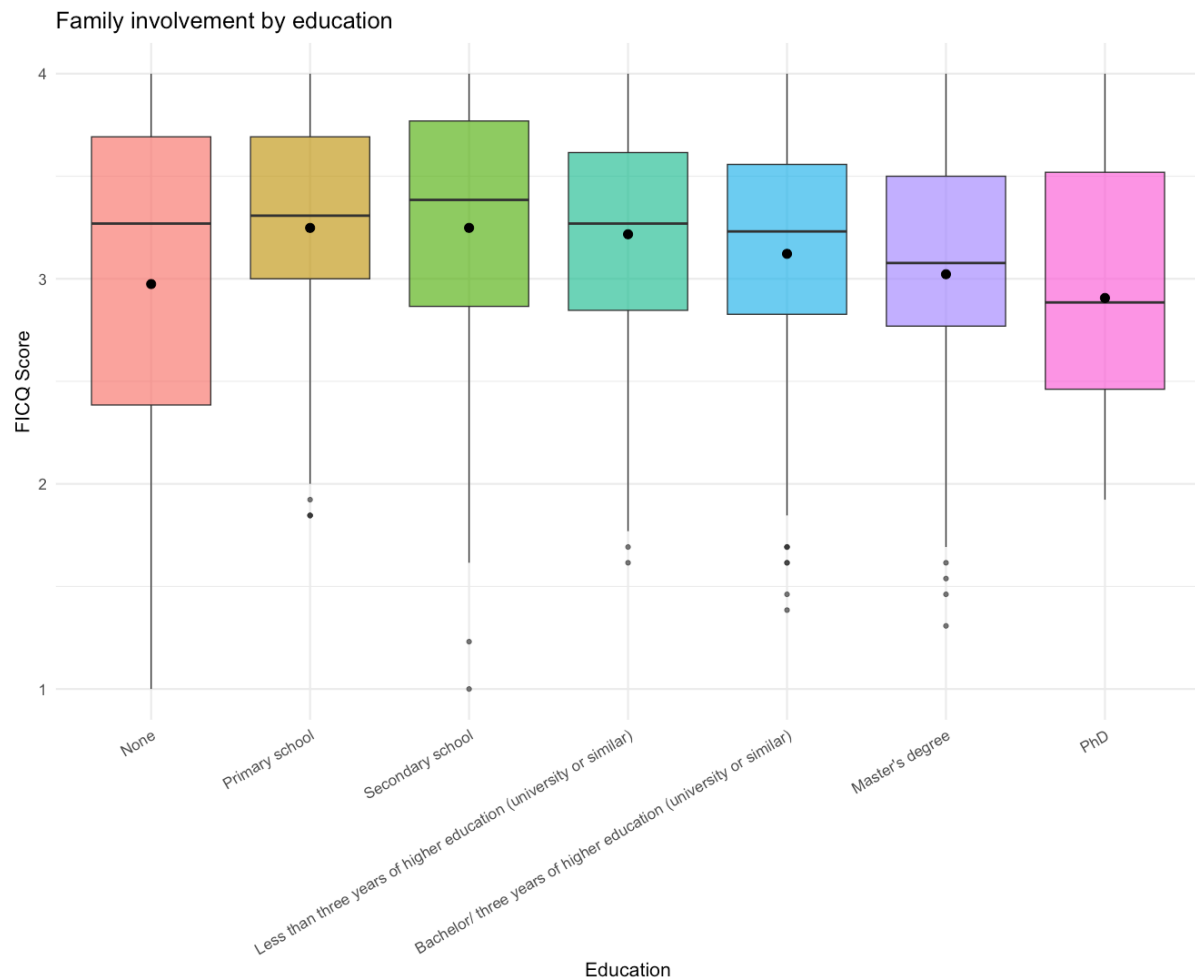
Figure 39. Analysis of Variance (ANOVA) of Informal caregivers FICQ score by education

Analysis of variance revealed that education level was significantly associated with family involvement FICQ scores, $F(6, 1574) = 3.1$, $p < .01$. This suggests that there are meaningful differences in family involvement between the respondents' levels of education. Median scores across all education groups were generally in the higher range of the scale, indicating that families often perceived sufficient involvement. Respondents with a PhD reported comparatively lower scores, suggesting lower involvement, whereas those with secondary school or less than three years of higher education reported the highest scores, indicating high family involvement. These results imply that family involvement does not follow a simple linear pattern across education levels but rather varies in a more complex way (Figure 39).
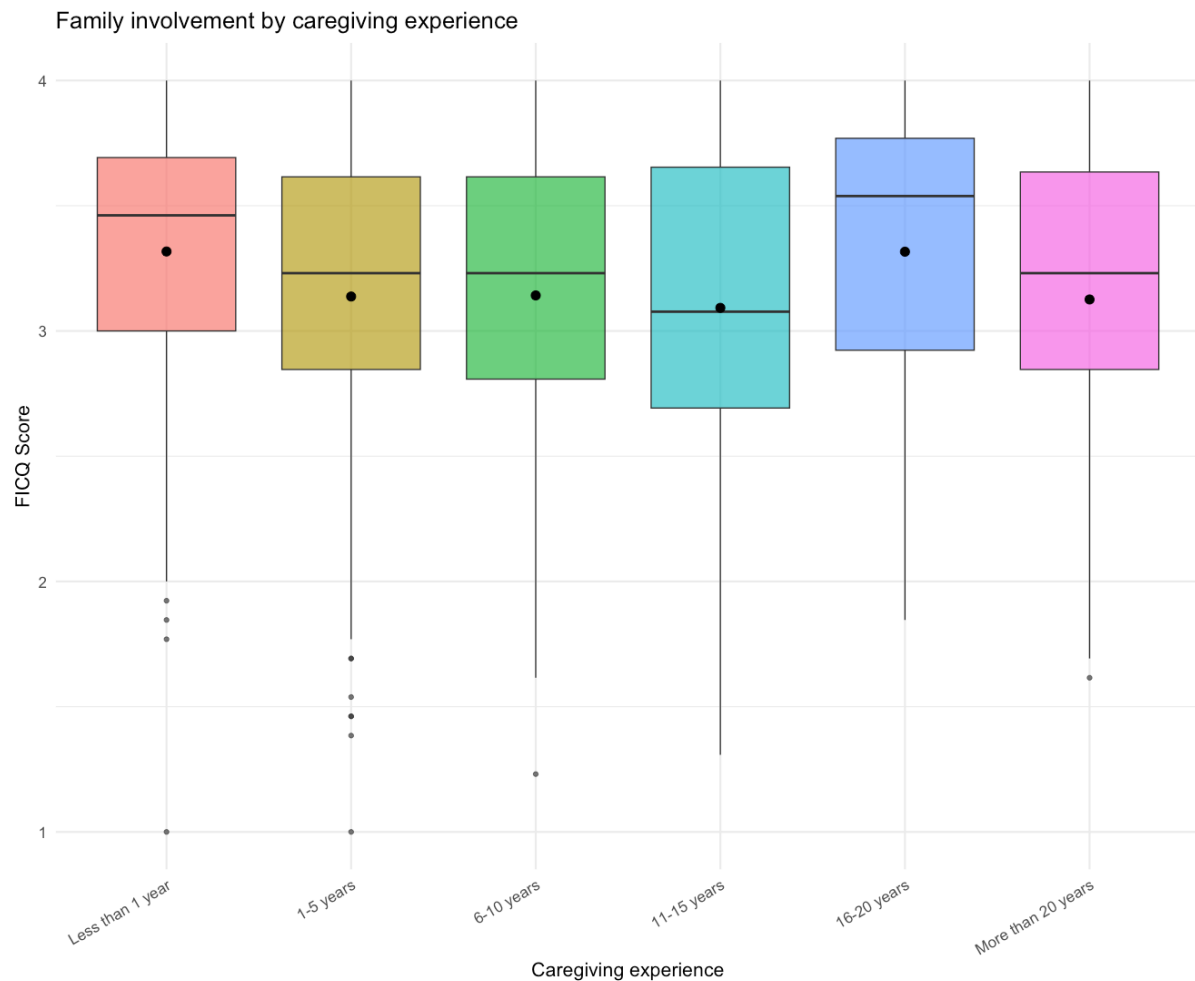
Figure 40. Analysis of Variance of Informal caregivers FICQ score by caregiving experience

Analysis of variance revealed that caregiving experience was not significantly associated with FICQ family involvement scores, $F(5, 1579) = 2.1$, $p = .0632$. This suggests that there are no statistically significant differences in family involvement across levels of caregiving experience. Descriptively, respondents with 11–15 years of experience reported slightly lower scores, indicating somewhat less involvement of families, whereas those with the longest caregiving experience (16–20 years and more than 20 years) tended to report higher scores, suggesting more involvement. Overall, however, median values across all groups remained above the midpoint of the scale, pointing to a general perception of sufficient family involvement regardless of caregiving experience (Figure 40).
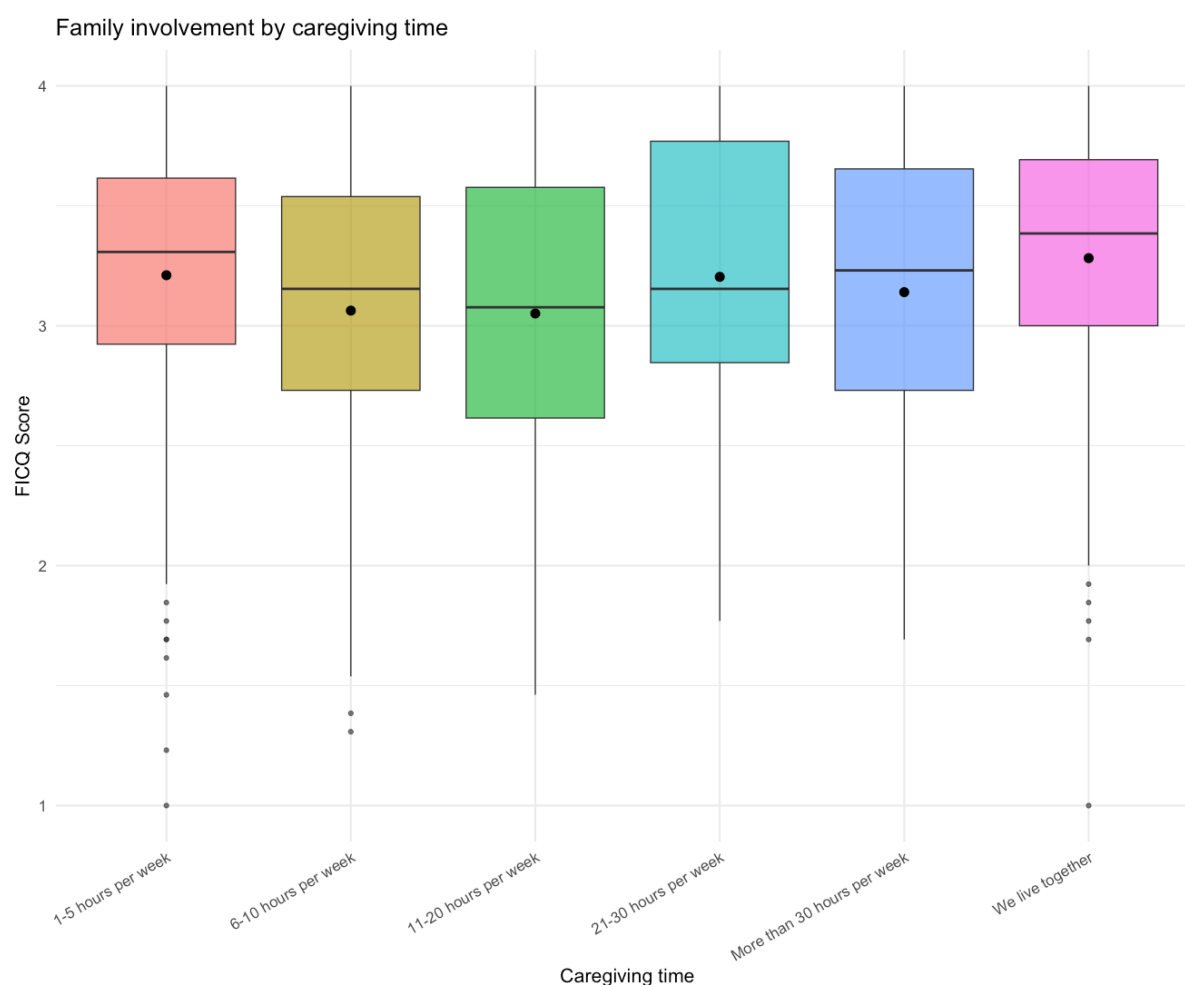
Family involvement by caregiving time

Figure 41. Analysis of Variance of Informal caregivers FICQ score by caregiving time

Analysis of variance revealed that caregiving time was significantly associated with FICQ scores for family involvement, $F(5, 1576) = 2.30$, $p < .05$. This suggests that there are meaningful differences in perceived family involvement across the different levels of caregiving time. As lower scores indicate lower levels of involvement, the results show that respondents providing only 1–5 hours of care per week reported relatively high FICQ scores, suggesting that families felt more involved in these cases. Similarly, respondents with the most intensive caregiving commitments (21–30 hours, more than 30 hours, or co-residential caregiving) also reported higher scores, indicating high perceived involvement. By contrast, those providing an intermediate amount of care (6–20 hours per week) tended to report lower FICQ scores, suggesting comparatively lower family involvement. Overall, these findings indicate that both very low and very high levels of caregiving time are associated with families feeling more involved in care processes (Figure 41).

3.2.2.4 Risk of burden
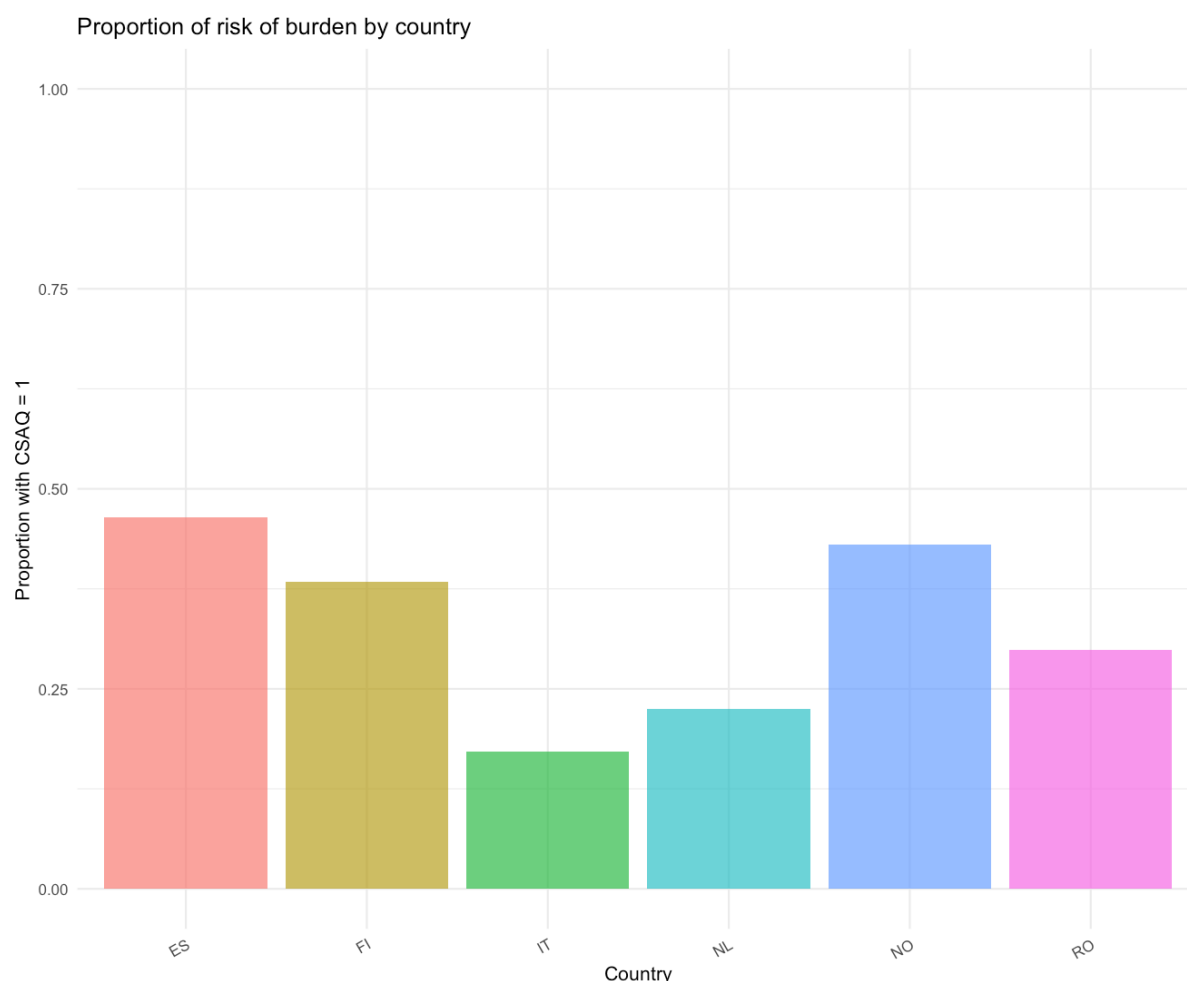
Proportion of risk of burden by country

Figure 42. Analysis of Variance (ANOVA) of Informal caregivers CSAQ score by country

Analysis of variance revealed that country was significantly associated with the proportion of informal caregivers at risk of burden, F(5, 1593) = 16.97, p < .001. This suggests that there are meaningful cross-country differences in caregiver burden. As shown in Figure 42, Spain reported the highest proportion of caregivers at risk, followed closely by Norway and Finland. By contrast, Italy and the Netherlands showed the lowest proportions, with Romania falling in between. These findings highlight that the likelihood of caregiver burden is not evenly distributed across countries but instead varies substantially.
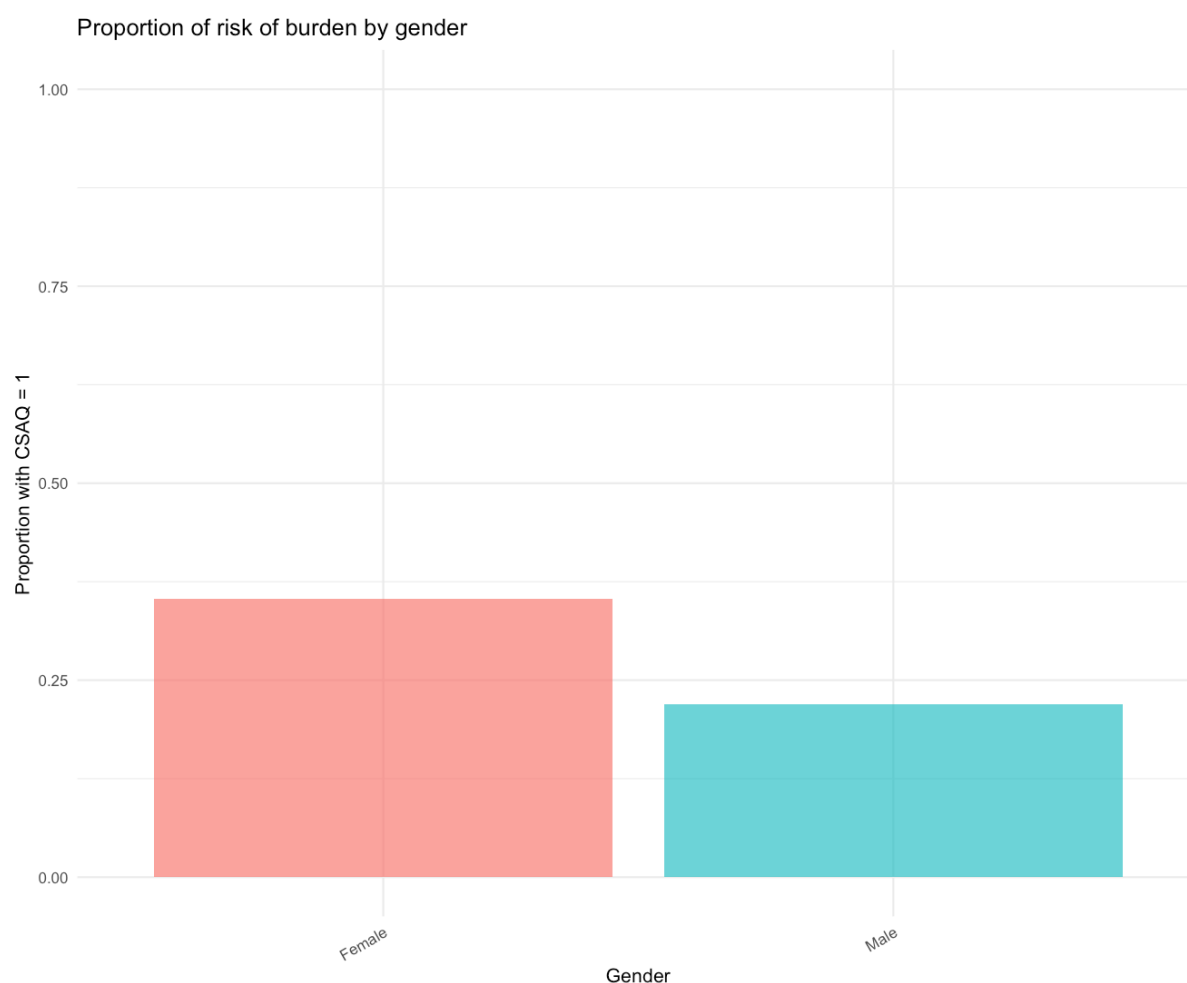
Figure 43. Analysis of Variance (ANOVA) of Informal caregivers CSAQ score by gender

Analysis of variance revealed that gender was significantly associated with the CSAQ score for risk of burden, $F(2, 1585) = 13.79$, $p < .001$. This indicates that female respondents were more likely to be at risk of caregiver burden compared to male respondents. As illustrated in Figure 43, approximately one third of women fell into the risk category, whereas the proportion among men was notably lower, at around one fifth. These findings suggest that female caregivers may experience a higher vulnerability to burden in comparison with their male counterparts.
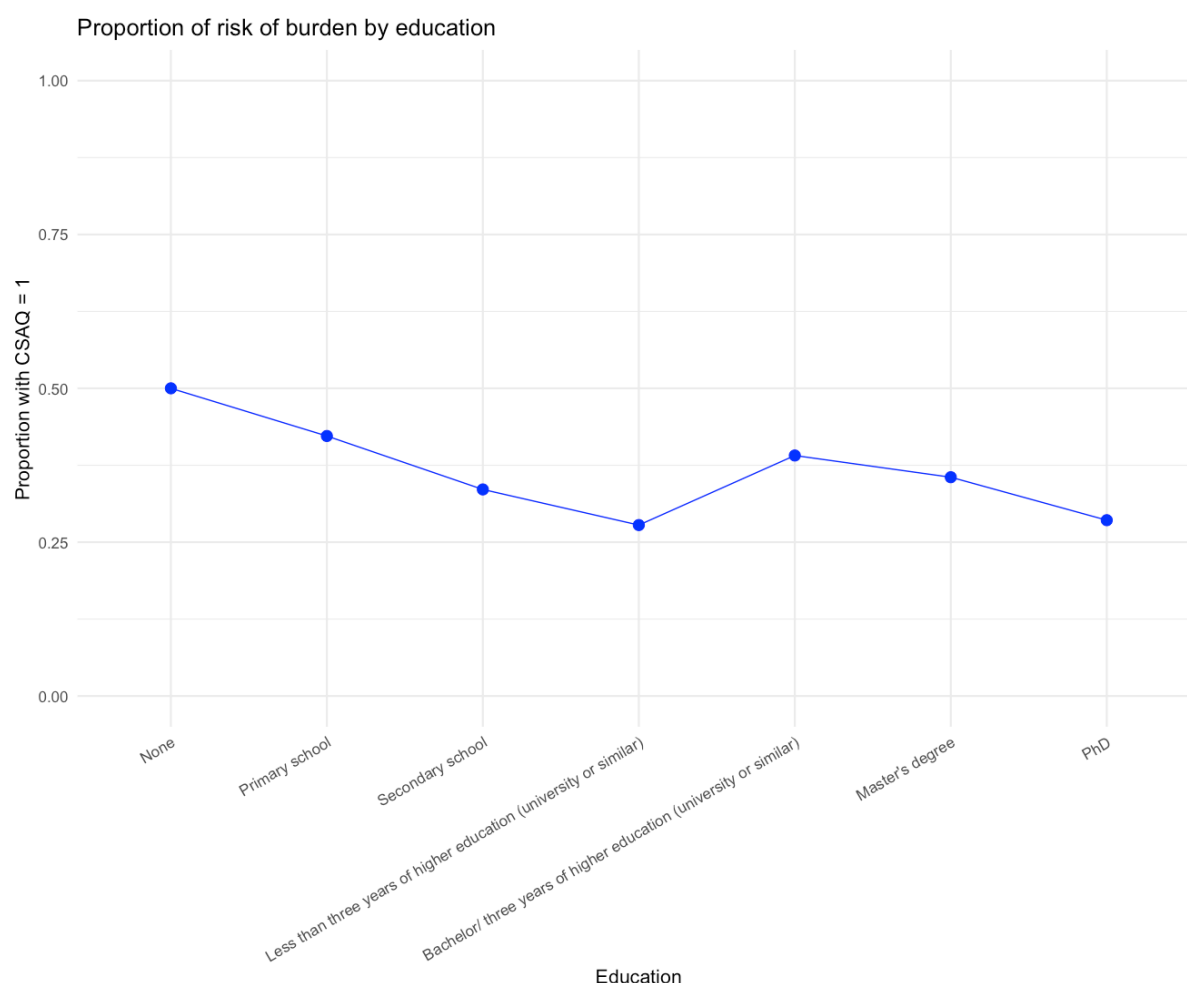
Figure 44. Analysis of Variance (ANOVA) of Informal caregivers CSAQ score by education

Analysis of variance revealed that the level of education was significantly associated with the CSAQ score for risk of burden, $F(6, 1578) = 2.23$, $p < .05$. As shown in Figure 44, respondents without formal education were most frequently at risk, with nearly half falling into the burden category. The proportion declined among those with primary, secondary, or some higher education, but interestingly increased again among respondents holding a bachelor's or master's degree. This suggests that individuals in the mid-level education groups may experience particular strains that heighten their risk of burden, in contrast to both those with less education and those with doctoral degrees, who reported comparatively lower risk. These results indicate that the relationship between education and caregiver burden is not strictly linear.
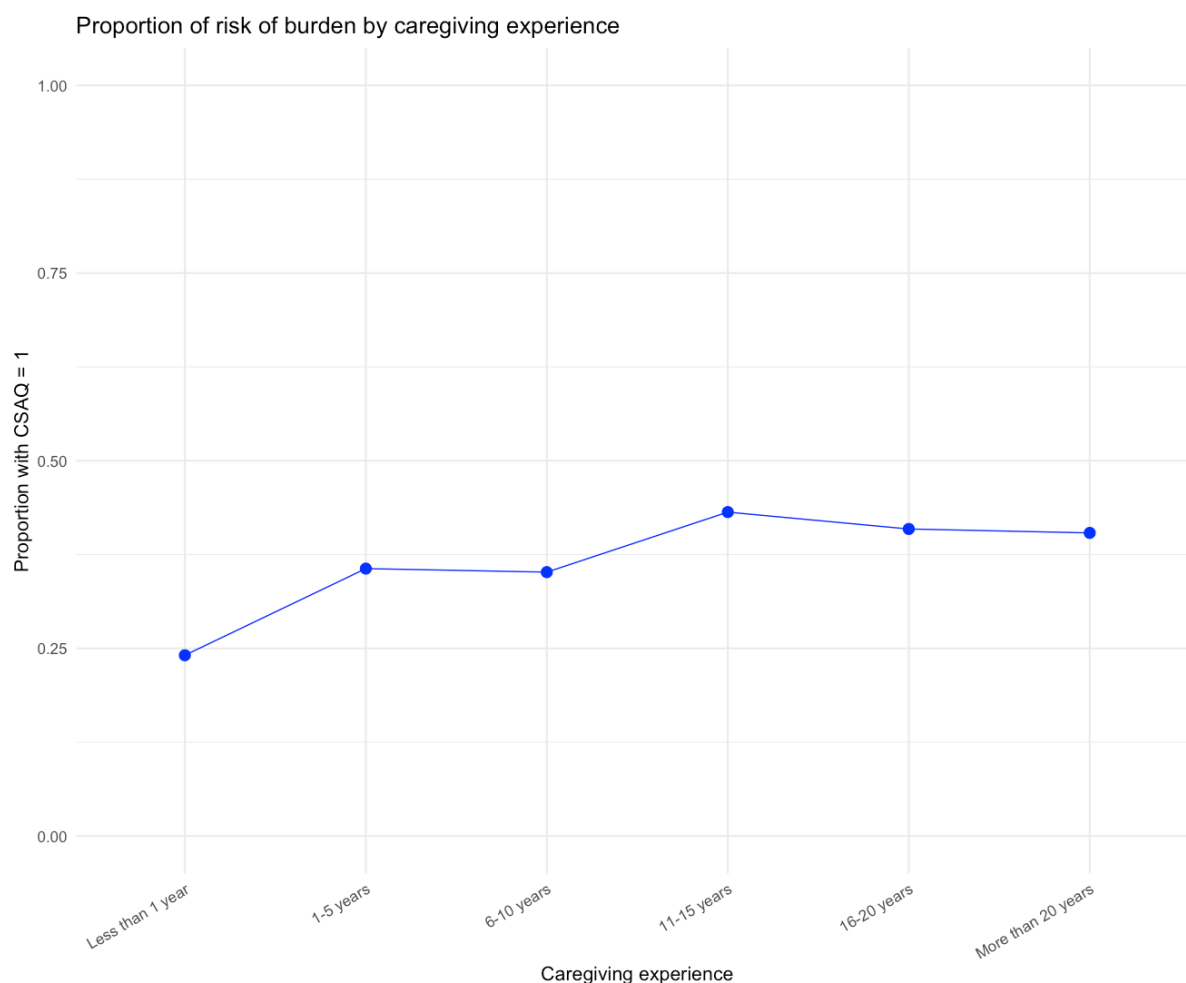
Figure 45. Analysis of Variance of Informal caregivers CSAQ score by caregiving experience

Figure 45 illustrates the proportion of caregivers at risk of burden across different levels of caregiving experience. Respondents with less than one year of experience reported the lowest risk, at around 25%. The proportion increased among those with 1–5 years and 6–10 years of experience, where approximately one-third were at risk. The highest risk was observed in the group with 11–15 years of caregiving, where over 40% were identified as at risk of burden. Among those with 16–20 years and more than 20 years of caregiving experience, the risk declined slightly but remained higher than in the groups with fewer years of caregiving. These findings suggest that the risk of burden tends to increase with years of caregiving, peaking around 11–15 years of experience. While the longest-serving caregivers showed somewhat lower proportions compared to this peak, their risk remained elevated. However, analysis of variance revealed that the level of caregiving experience was not significantly associated with the CSAQ score for risk of burden, $F(5, 1582) = 1.51$, $p = .185$.

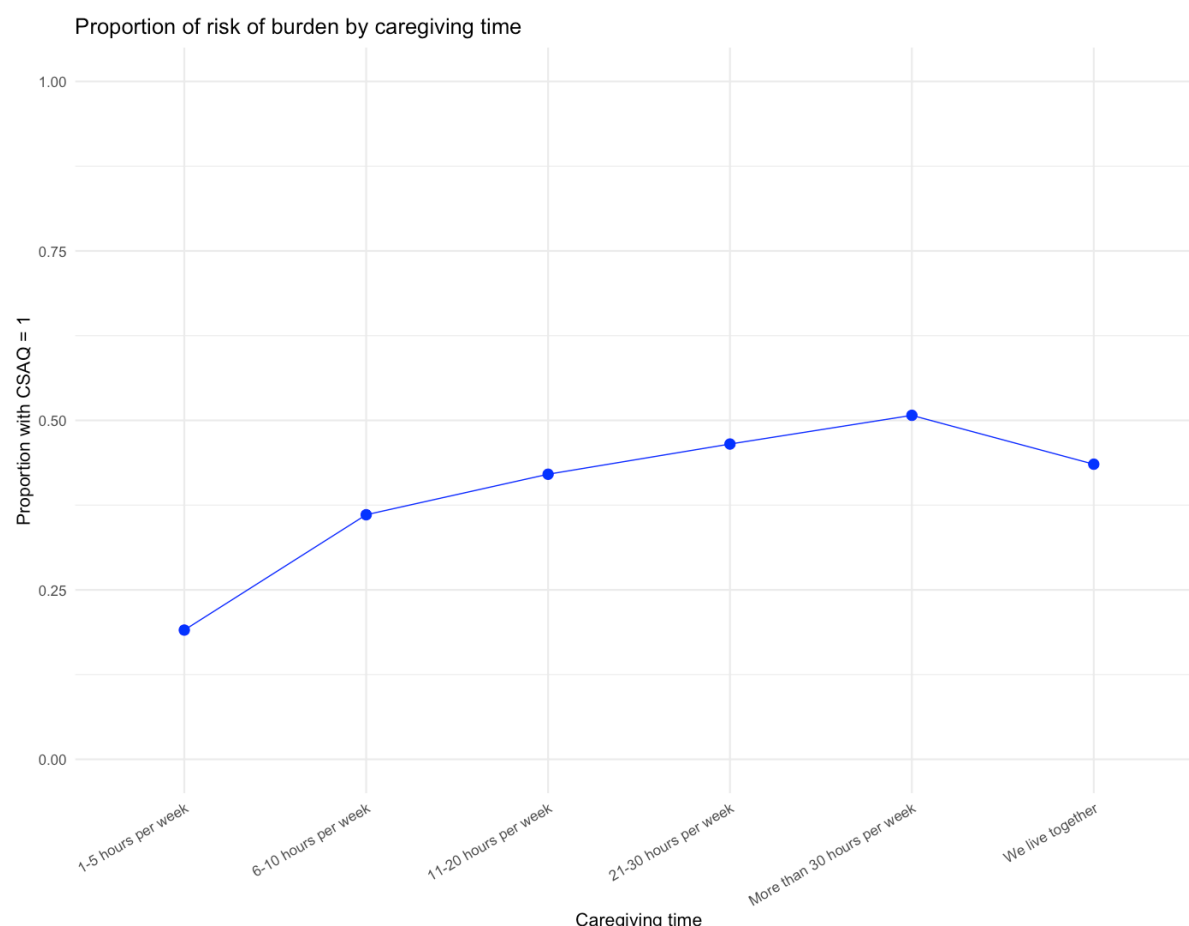Proportion of risk of burden by caregiving time

Figure 46. Analysis of Variance (ANOVA) of Informal caregivers CSAQ score by caregiving time

Analysis of variance revealed that the level of caregiving time per week was significantly associated with the CSAQ score for risk of burden, $F(5, 1580) = 17.96$, $p < .001$. As illustrated in Figure 46, the proportion of caregivers at risk of burden increased steadily with greater caregiving time. Those providing only 1–5 hours per week reported the lowest risk, whereas risk rose substantially for those dedicating more than 30 hours per week, reaching its peak in this group. Interestingly, caregivers living together with the care recipient also showed elevated risk, although slightly lower than in the 30-hours-per-week group. These findings suggest a clear dose–response pattern, in which higher time commitments to caregiving are associated with greater risk of burden.

3.3 Multiple linear regression analysis

3.3.1 Healthcare workers

3.3.1.1 Mental wellbeing

A two-level (hierarchical) linear mixed-effects model was run to investigate mental wellbeing among healthcare workers:

- Level 1: individual-level predictors (age, gender, education, experience, individual resilience).
- Level 2: country, entered as a cluster (random intercept) to account for dependency of individuals within countries.

A summary of the model is available in Table 9.

Table 9. A two-level linear mixed-effects model (mental wellbeing / healthcare workers)

Predictors	Mental wellbeing		
	Estimates	std. Error	p
(Intercept)	28.65	0.73	<0.001
age_z	0.14	0.11	0.214
genderMale	-0.13	0.28	0.641
education_recodedSecondary school	-0.89	0.43	0.038
education_recodedLess than three years of higher education (university or similar)	-0.88	0.43	0.043
education_recodedBachelor/ three years of higher education (university or similar)	-1.40	0.43	0.001
education_recodedMaster's degree	-0.67	0.49	0.172
education_recodedPhD	-1.48	0.88	0.093
experience1-5 years	-0.48	0.49	0.325
experience6-10 years	-1.28	0.50	0.010
experience11-15 years	-0.91	0.51	0.078
experience16-20 years	-0.62	0.52	0.234
experienceMore than 20 years	-0.48	0.52	0.348
res_z	2.36	0.09	<0.001
Random Effects			
σ^2	8.10		
$\tau_{00\ country}$	1.06		
ICC	0.12		
$N_{country}$	6		
Observations	1168		
Marginal R^2 / Conditional R^2	0.398 / 0.467		

The reference for the categorical variables is:
- Gender: Female
- Education: Primary school

- Experience: Less than 1 year

The model shows that the statistically significant predictors for mental wellbeing among healthcare workers are some levels of education, experience, and individual resilience.
The model has a good fit since it explains 46.7% of the variation, and the country variable explains approx. 7% of this. The inter-cluster correlation coefficient is 0.12, showing a significant effect of the cluster variable country on mental wellbeing.
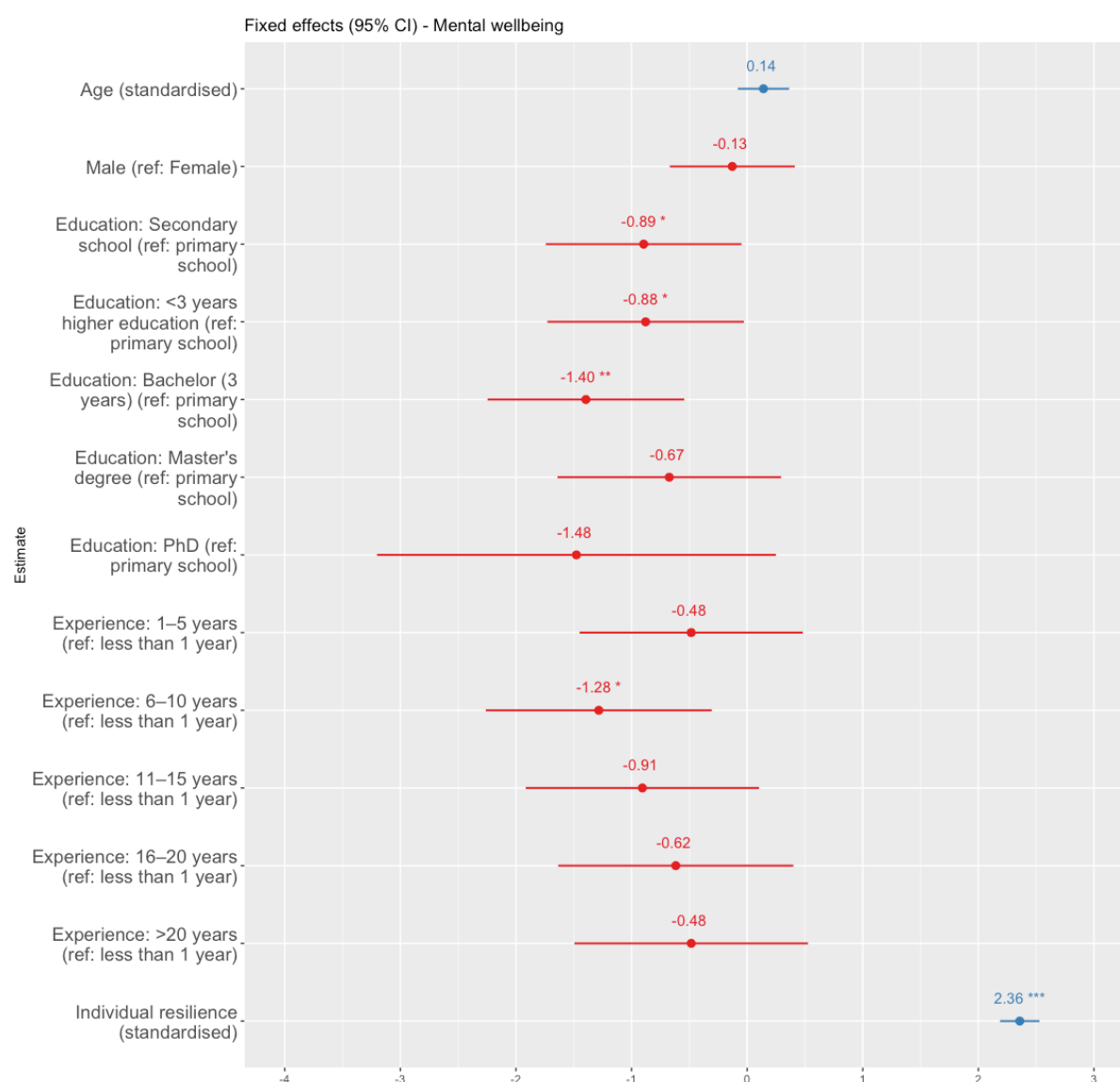

Figure 47. Forest plot of the regression model (mental wellbeing / healthcare workers)

The forest plot provides a visual representation of the regression model. Regarding education, having more education compared to primary school is associated with lower mental wellbeing ($\beta = -0.89$ for secondary education, $\beta = -0.88$ for less than 3 years of higher education, $\beta = -1.40$ for 3 years of higher education). Regarding experience, having 6-10 years of experience is associated with lower mental wellbeing than having less than 1 year of experience ($\beta = -1.28$). Finally, individual resilience score was positively associated with mental wellbeing ($\beta = 2.36$).
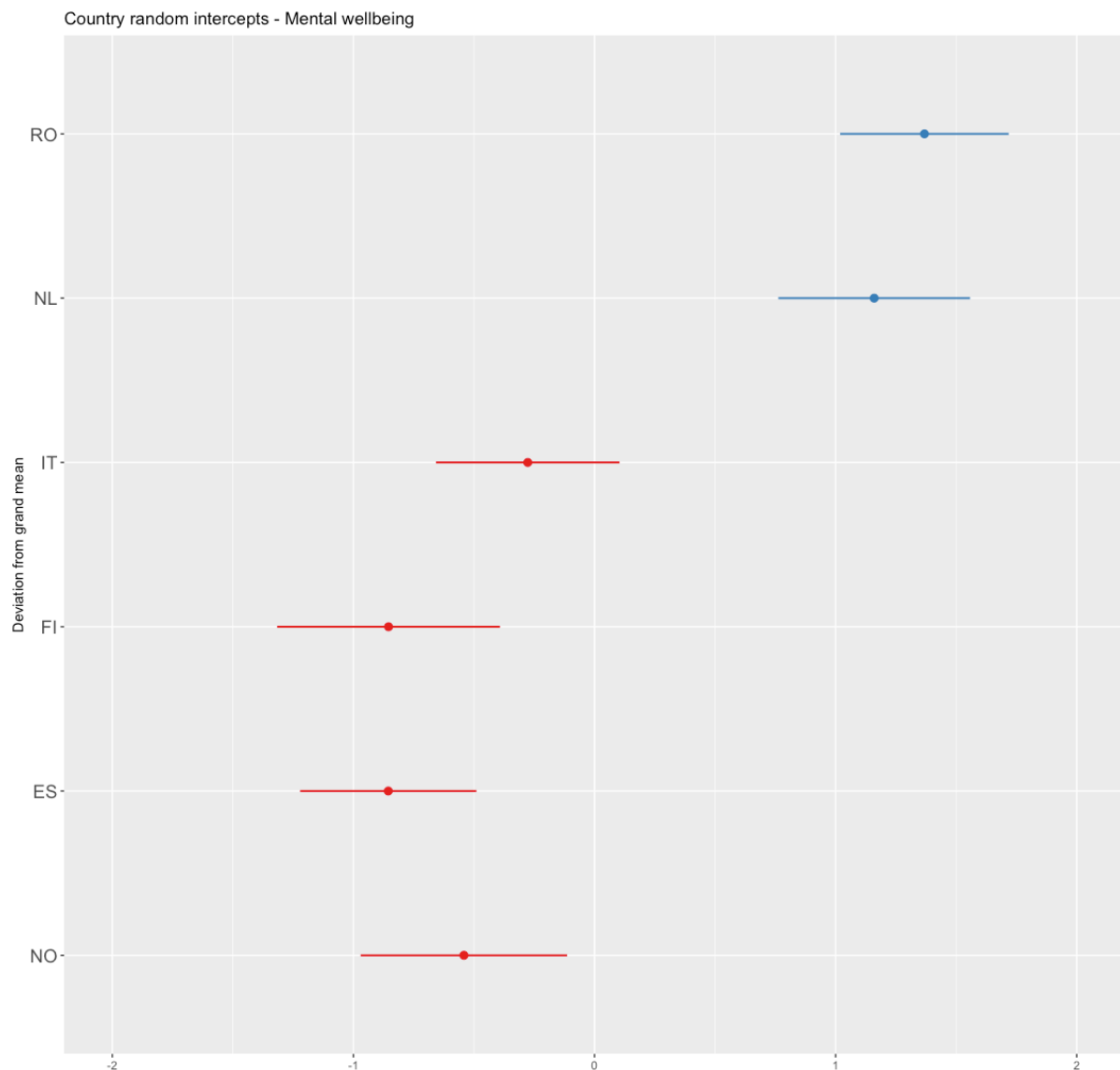

Figure 48. Forest plot of the regression model (mental wellbeing / healthcare workers / country)

This forest plot displays the country effect on mental wellbeing. In a comparative way, Italy does not distinguish from the mean, while Finland, Spain and Norway are scoring significantly lower than the mean, and the Netherlands and Romania are scoring significantly higher.

3.3.1.2 Burnout

A two-level (hierarchical) linear mixed-effects model was run to investigate burnout:

- Level 1: individual-level predictors (age, gender, education, experience, individual resilience).
- Level 2: country, entered as a cluster (random intercept) to account for dependency of individuals within countries.

A summary of the model is available in Table 10.

Table 10. A two-level linear mixed-effects model (burnout / healthcare workers)

Predictors	Burnout		
	Estimates	std. Error	p
(Intercept)	30.63	4.67	<0.001
age_z	-1.94	0.73	0.008
genderMale	-1.98	1.78	0.266
education_recodedSecondary school	2.19	2.79	0.432
education_recodedLess than three years of higher education (university or similar)	1.93	2.80	0.490
education_recodedBachelor/ three years of higher education (university or similar)	3.97	2.80	0.157
education_recodedMaster's degree	-2.44	3.18	0.444
education_recodedPhD	13.94	5.68	0.014
experience1-5 years	7.44	3.18	0.019
experience6-10 years	11.57	3.22	<0.001
experience11-15 years	8.03	3.32	0.016
experience16-20 years	8.18	3.35	0.015
experienceMore than 20 years	11.44	3.33	0.001
res_z	-8.01	0.56	<0.001
Random Effects			
σ^2	337.78		
$\tau_{00 \ country}$	41.08		
ICC	0.11		
$N_{country}$	6		
Observations	1168		
Marginal R^2 / Conditional R^2	0.174 / 0.264		

The reference for the categorical variables is:
- Gender: Female
- Education: Primary school
- Experience: Less than 1 year

The model shows that the statistically significant predictors for burnout among healthcare workers are age and individual resilience. All levels of experience were statistically significant predictors. Education also played a role, as those with PhD-level training showed higher levels of burnout. The model has a reasonable fit since it explains 26.4% of the variation. The inter-cluster correlation coefficient is 0.11, indicating that 11% of the variation in burnout is attributable to differences between countries.
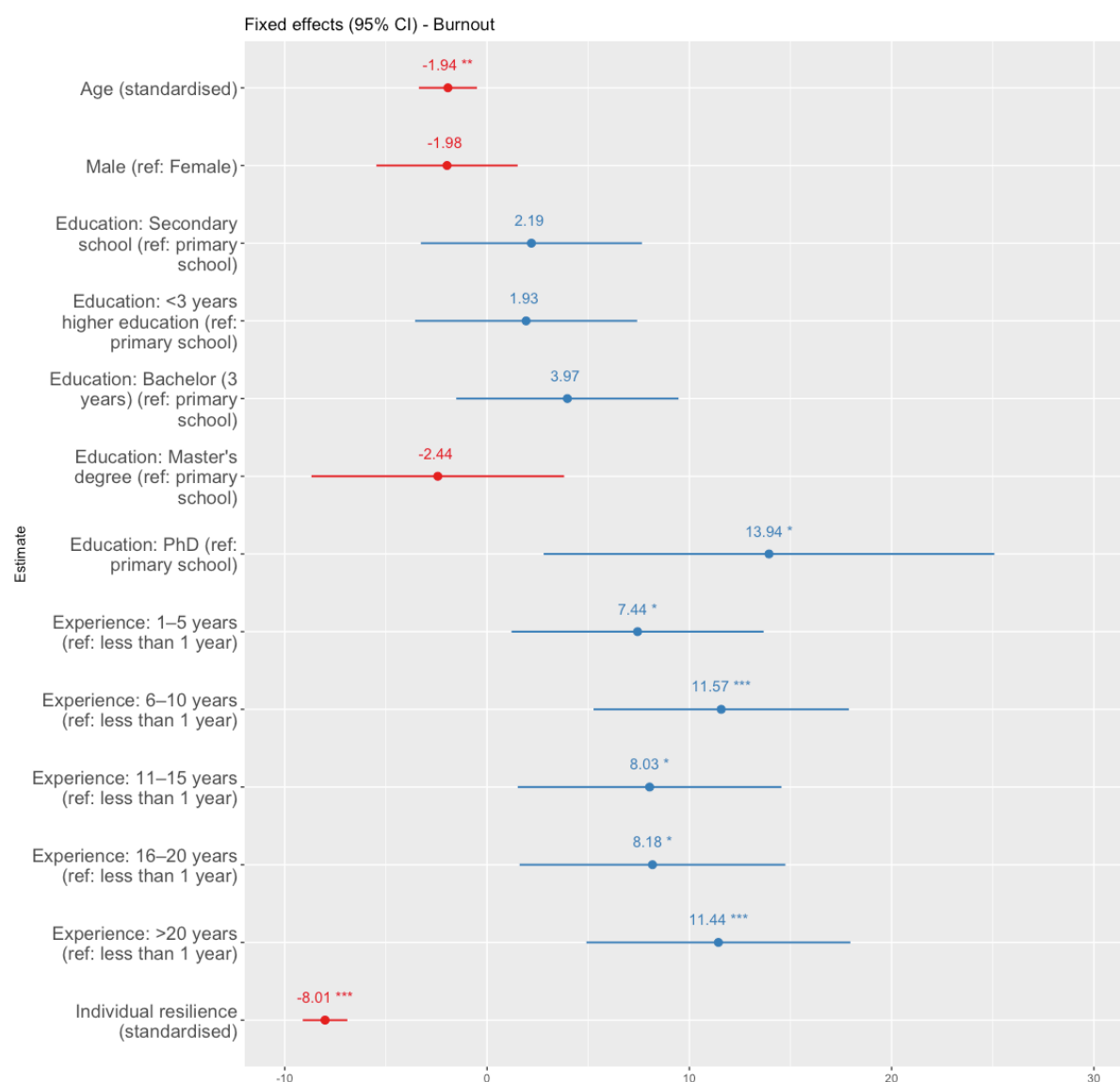
Figure 49. Forest plot of the regression model (burnout / healthcare workers)

The forest plot provides a visual representation of the regression model. Regarding age, being older was associated with lower burnout (β = -1.94). Regarding education, having a PhD was associated with higher burnout (β = 13.94). Regarding experience, longer work experience was consistently associated with higher burnout, with the strongest effects observed for 6–10 years (β = 11.57) and more than 20 years of experience (β = 11.44). Finally, individual resilience was strongly associated with lower burnout (β = -8.01).
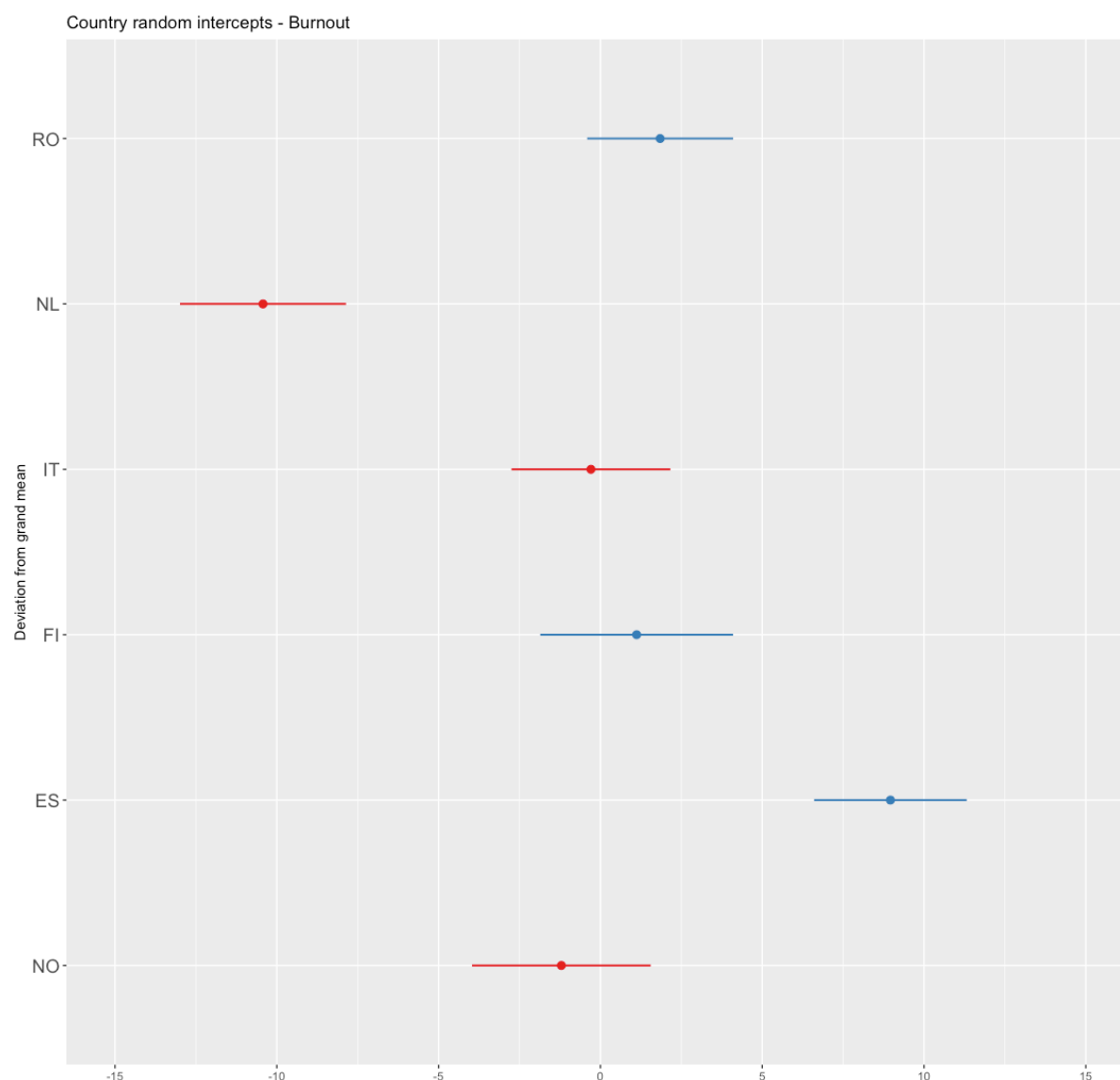
Figure 50. Forest plot of the regression model (burnout / healthcare workers / country)

The forest plot provides a visual representation of the country-level random intercepts for burnout. Compared to the overall mean, Spain (ES) showed higher levels of burnout, while the Netherlands (NL) showed lower levels. These results suggest that there are country-level differences in average burnout, with Spain standing out with the highest deviation above the mean.

3.3.1.3 Intention to turnover

A two-level (hierarchical) linear mixed-effects model was run to investigate intention to turnover:
- Level 1: individual-level predictors (age, gender, education, experience, individual resilience).
- Level 2: country, entered as a cluster (random intercept) to account for dependency of individuals within countries.

A summary of the model is available in Table 11.

Table 11. A two-level linear mixed-effects model (intention to turnover / healthcare workers)

Predictors	Intention to turnover		
	Estimates	std. Error	p
(Intercept)	1.78	0.37	<0.001
age_z	-0.16	0.06	0.005
genderMale	0.09	0.14	0.539
education_recodedSecondary school	0.31	0.22	0.164
education_recodedLess than three years of higher education (university or similar)	0.30	0.22	0.177
education_recodedBachelor/ three years of higher education (university or similar)	0.69	0.22	0.002
education_recodedMaster's degree	0.50	0.25	0.049
education_recodedPhD	0.53	0.45	0.241
experience1-5 years	0.22	0.25	0.389
experience6-10 years	0.57	0.25	0.025
experience11-15 years	0.30	0.26	0.251
experience16-20 years	0.43	0.27	0.103
experienceMore than 20 years	0.47	0.26	0.073
res_z	-0.33	0.04	<0.001
Random Effects			
σ^2	2.12		
$\tau_{00\ country}$	0.28		
ICC	0.12		
$N_{country}$	6		
Observations	1168		
Marginal R^2 / Conditional R^2	0.084 / 0.189		

The reference for the categorical variables is:
- Gender: Female
- Education: Primary school

- Experience: Less than 1 year

The model shows that the statistically significant predictors for intention to turnover among healthcare workers are age, individual resilience and some levels of education. Only one level of experience was statistically significant, namely 6–10 years of experience. The model has a decent fit since it explains 18.9% of the variation. The inter-cluster correlation coefficient is 0.12, indicating that 12% of the variation in turnover intention is attributable to differences between countries.
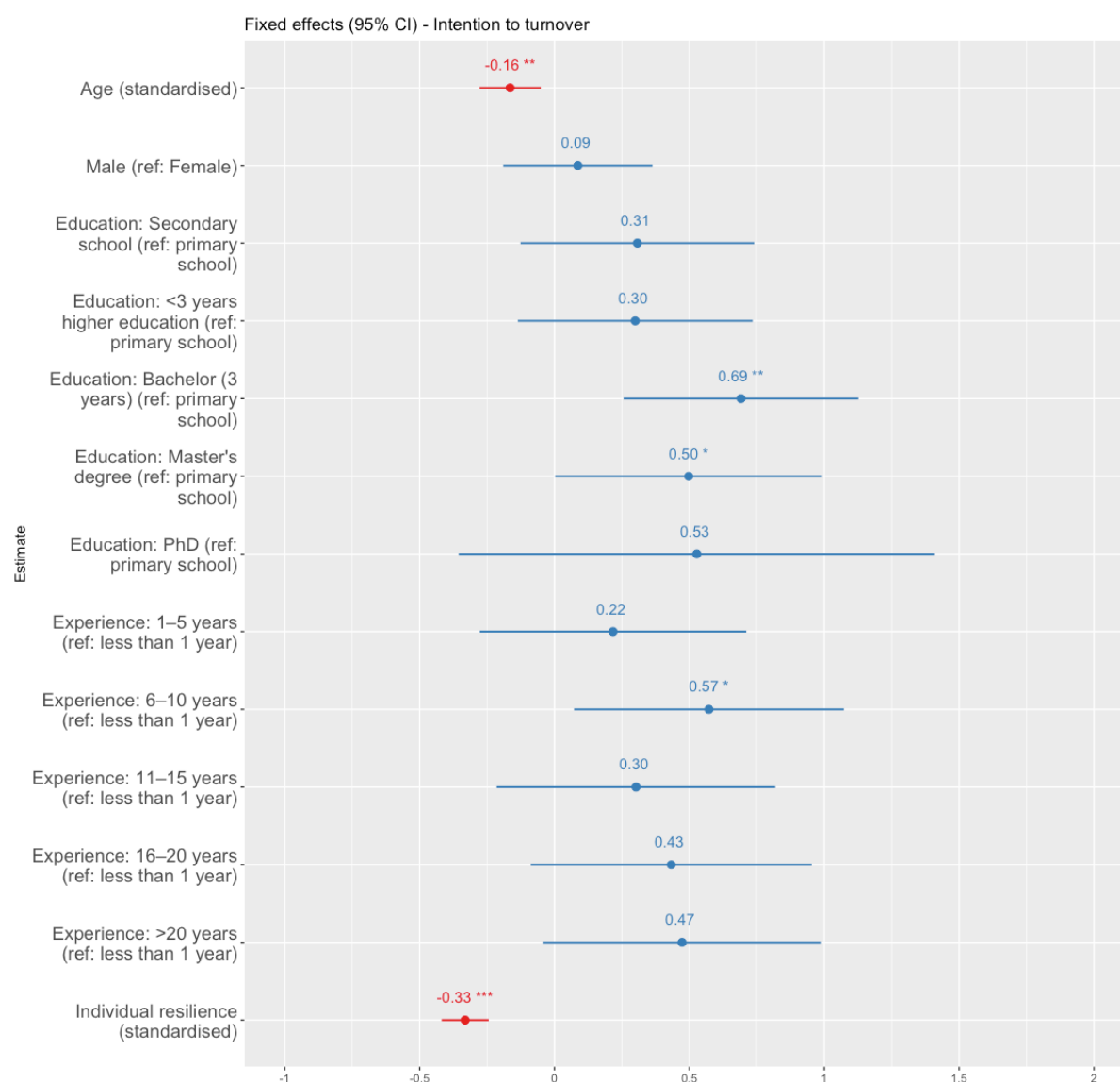
Figure 51. Forest plot of the regression model (intention to turnover / healthcare workers)

The forest plot provides a visual representation of the regression model. Regarding age, being older was associated with lower intention to turnover (β = -0.16). Regarding education, higher education compared to primary school was associated with higher intention to turnover, with significant effects observed for a bachelor's degree (β = 0.69). Regarding experience, having 6–10 years of experience was associated with higher intention to turnover compared to less than 1 year (β = 0.57). Finally, individual resilience was strongly associated with lower intention to turnover (β = -0.33).
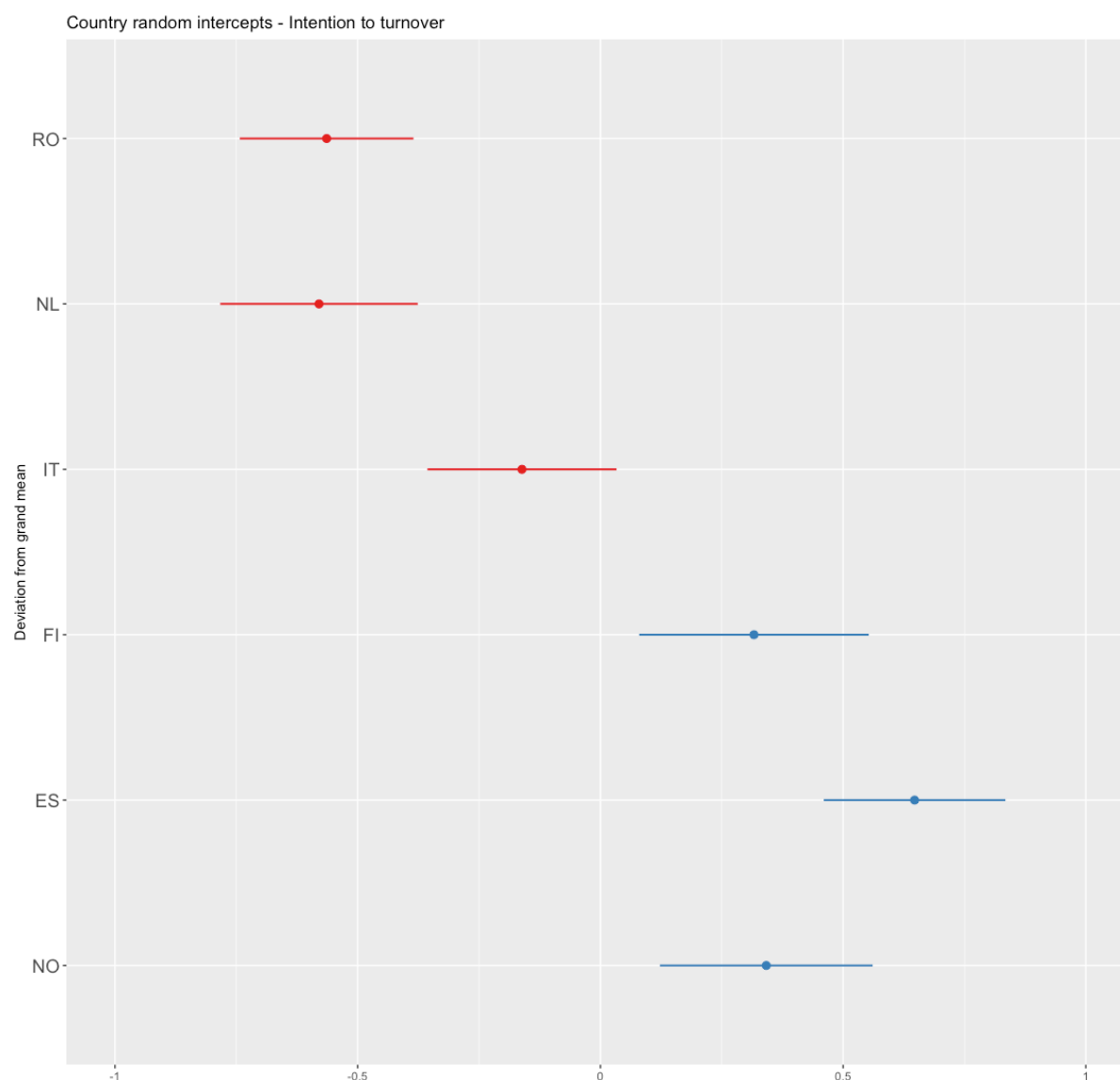
Figure 52. Forest plot of the regression model (intention to turnover / healthcare workers / country)

The forest plot provides a visual representation of the country-level random intercepts for intention to turnover. Compared to the overall mean, Finland (FI), Spain (ES), and Norway (NO) showed higher levels of turnover intention, while Romania (RO), the Netherlands (NL), and Italy (IT) showed lower levels. These results indicate meaningful variation between countries in average turnover intention, with Spain showing the highest deviation above the mean and the Netherlands the lowest below the mean.

3.3.2 Informal caregivers

3.3.2.1 Mental wellbeing

A two-level (hierarchical) linear mixed-effects model was run to investigate mental wellbeing of informal caregivers:

- Level 1: individual-level predictors (age, gender, education, caregiving experience, caregiving time, individual resilience).
- Level 2: country, entered as a cluster (random intercept) to account for dependency of individuals within countries.

A summary of the model is available in Table 12.

Table 12. A two-level linear mixed-effects model (mental wellbeing / informal caregivers)

Predictors	Mental wellbeing		
	Estimates	std. Error	p
(Intercept)	26.64	1.00	<0.001
age_z	0.39	0.10	<0.001
genderMale	0.73	0.19	<0.001
education_recodedPrimary school	0.84	0.86	0.331
education_recodedSecondary school	0.44	0.83	0.592
education_recodedLess than three years of higher education (university or similar)	0.21	0.84	0.805
education_recodedBachelor/ three years of higher education (university or similar)	-0.01	0.83	0.989
education_recodedMaster's degree	-0.06	0.85	0.945
education_recodedPhD	0.39	0.99	0.696
caregiving_experience1-5 years	-0.48	0.28	0.087
caregiving_experience6-10 years	-0.67	0.31	0.028
caregiving_experience11-15 years	-0.62	0.36	0.084
caregiving_experience16-20 years	-0.10	0.45	0.829
caregiving_experienceMore than 20 years	-0.60	0.43	0.163
caregiving_time6-10 hours per week	-0.36	0.23	0.112
caregiving_time11-20 hours per week	-0.69	0.30	0.019
caregiving_time21-30 hours per week	-0.54	0.44	0.218
caregiving_timeMore than 30 hours per week	-0.99	0.36	0.006
caregiving_timeWe live together	-0.72	0.25	0.004
res_z	2.61	0.08	<0.001
Random Effects			
σ^2	10.02		
$\tau_{00 \ country}$	1.59		

ICC	0.14
N country	6
Observations	1517
Marginal R^2 / Conditional R^2	0.381 / 0.466

The reference for the categorical variables is:
- Gender: Female
- Education: Primary school
- Experience: Less than 1 year

The model shows that the statistically significant predictors for mental wellbeing among informal caregivers are age, gender, individual resilience and some levels of caregiving time. Education was not a significant predictor. Only one level of caregiving experience was statistically significant, namely 6–10 years of experience. The model has a great fit since it explains 46.6% of the variation. The inter-cluster correlation coefficient is 0.14, indicating that 14% of the variation in mental wellbeing is attributable to differences between countries.
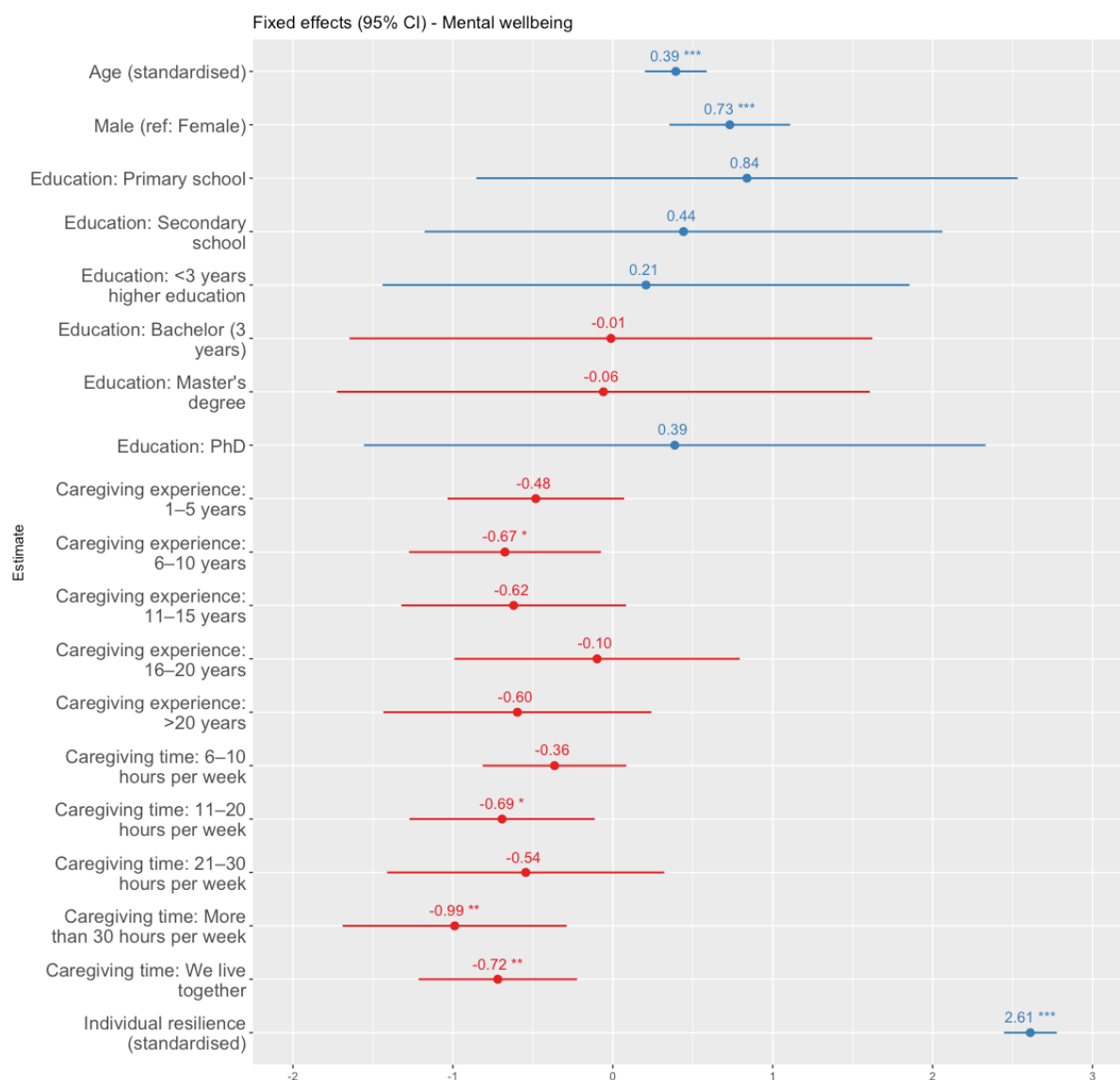
Figure 53. Forest plot of the regression model (mental wellbeing / informal caregivers)

The forest plot provides a visual representation of the regression model. Regarding age, being older was associated with higher mental wellbeing (β = 0.39). Being male compared to female was also associated with higher wellbeing (β = 0.73). Education did not show consistent or statistically significant associations. Regarding caregiving experience, having 6–10 years (β = -0.67) or 11–15 years (β = -0.62) of caregiving was associated with lower wellbeing compared to less than 1 year. Regarding caregiving time, providing more than 30 hours per week (β = -0.99) or living together with the care recipient (β = -0.72) were associated with significantly lower wellbeing. Finally, individual resilience was strongly and positively associated with mental wellbeing (β = 2.61).
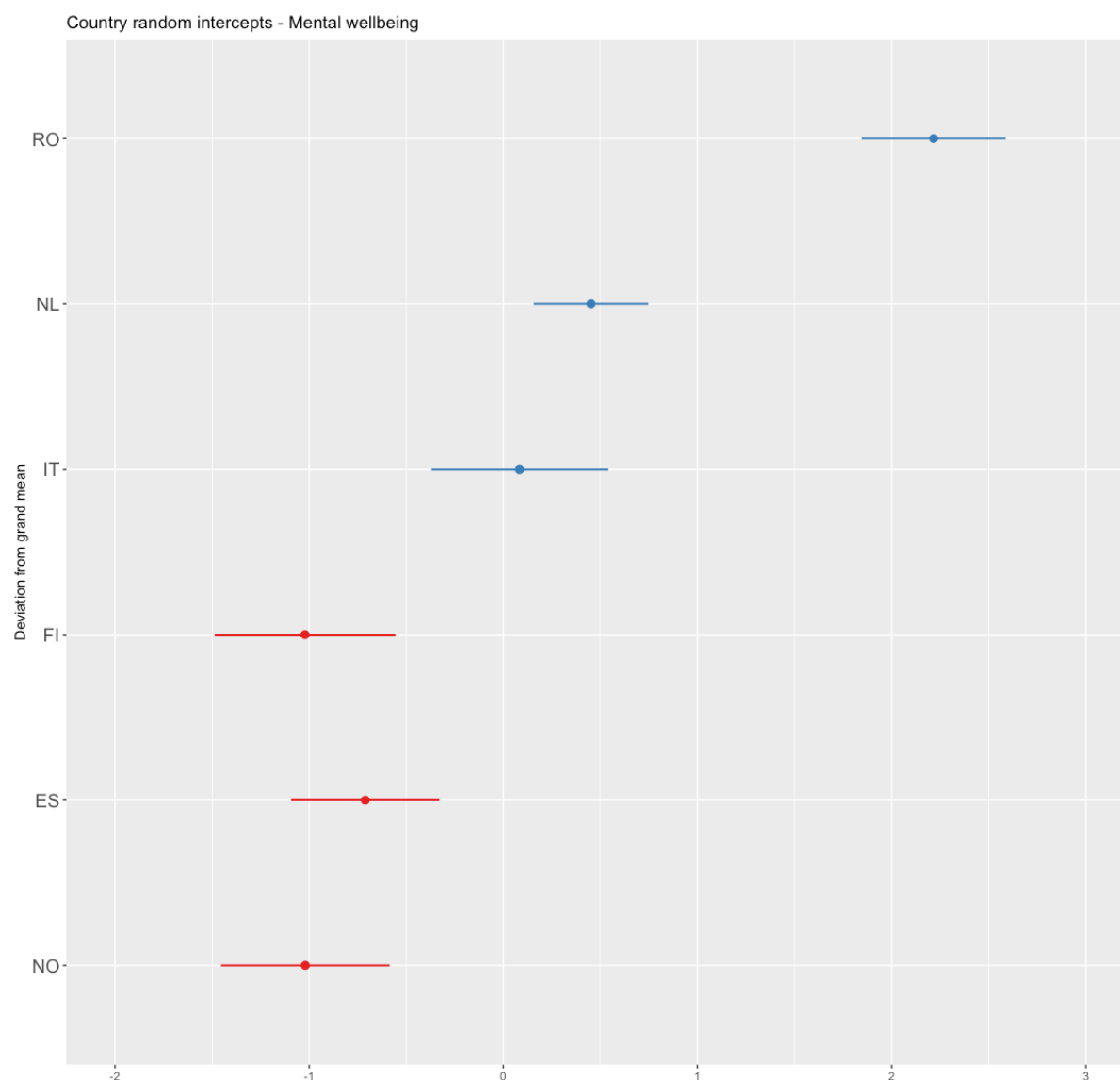
Figure 54. Forest plot of the regression model (mental wellbeing / informal caregivers / country)

The forest plot provides a visual representation of the country-level random intercepts for mental wellbeing. Compared to the overall mean, Romania (RO) and the Netherlands (NL) showed higher levels of wellbeing, while Finland (FI), Spain (ES), and Norway (NO) showed lower levels. These results suggest that average mental wellbeing differs between countries, with Romania standing out with the highest levels above the mean and Finland, Spain, and Norway showing the lowest levels below the mean.

3.3.2.2 Involvement

A two-level (hierarchical) linear mixed-effects model was run to investigate involvement of informal caregivers:

- Level 1: individual-level predictors (age, gender, education, caregiving experience, caregiving time, individual resilience).
- Level 2: country, entered as a cluster (random intercept) to account for dependency of individuals within countries.

A summary of the model is available in Table 13.

Table 13. A two-level linear mixed-effects model (involvement / informal caregivers)

Predictors	Involvement		
	Estimates	std. Error	p
(Intercept)	2.99	0.17	<0.001
age_z	0.04	0.02	0.016
genderMale	-0.01	0.03	0.705
education_recodedPrimary school	0.23	0.15	0.124
education_recodedSecondary school	0.23	0.14	0.108
education_recodedLess than three years of higher education (university or similar)	0.18	0.15	0.220
education_recodedBachelor/ three years of higher education (university or similar)	0.16	0.14	0.256
education_recodedMaster's degree	0.08	0.15	0.578
education_recodedPhD	0.04	0.17	0.796
caregiving_experience1-5 years	0.03	0.05	0.574
caregiving_experience6-10 years	0.02	0.05	0.694
caregiving_experience11-15 years	-0.04	0.06	0.555
caregiving_experience16-20 years	-0.04	0.08	0.605
caregiving_experienceMore than 20 years	-0.08	0.07	0.302
caregiving_time6-10 hours per week	-0.02	0.04	0.693
caregiving_time11-20 hours per week	0.01	0.05	0.779
caregiving_time21-30 hours per week	-0.05	0.08	0.526
caregiving_timeMore than 30 hours per week	-0.01	0.06	0.900
caregiving_timeWe live together	0.07	0.04	0.131
res_z	0.20	0.01	<0.001

Random Effects

σ^2 0.30

$\tau_{00\ country}$ 0.04

ICC	0.11
N $_{country}$	6
Observations	1514
Marginal R^2 / Conditional R^2	0.115 / 0.209

The reference for the categorical variables is:
- Gender: Female
- Education: Primary school
- Experience: Less than 1 year

The model shows that the statistically significant predictors for involvement among informal caregivers are age and individual resilience. Gender, education, caregiving experience or time were not significant predictors. The model has a reasonable fit since it explains 20.9% of the variation. The inter-cluster correlation coefficient is 0.11, indicating that 11% of the variation in involvement is attributable to differences between countries.
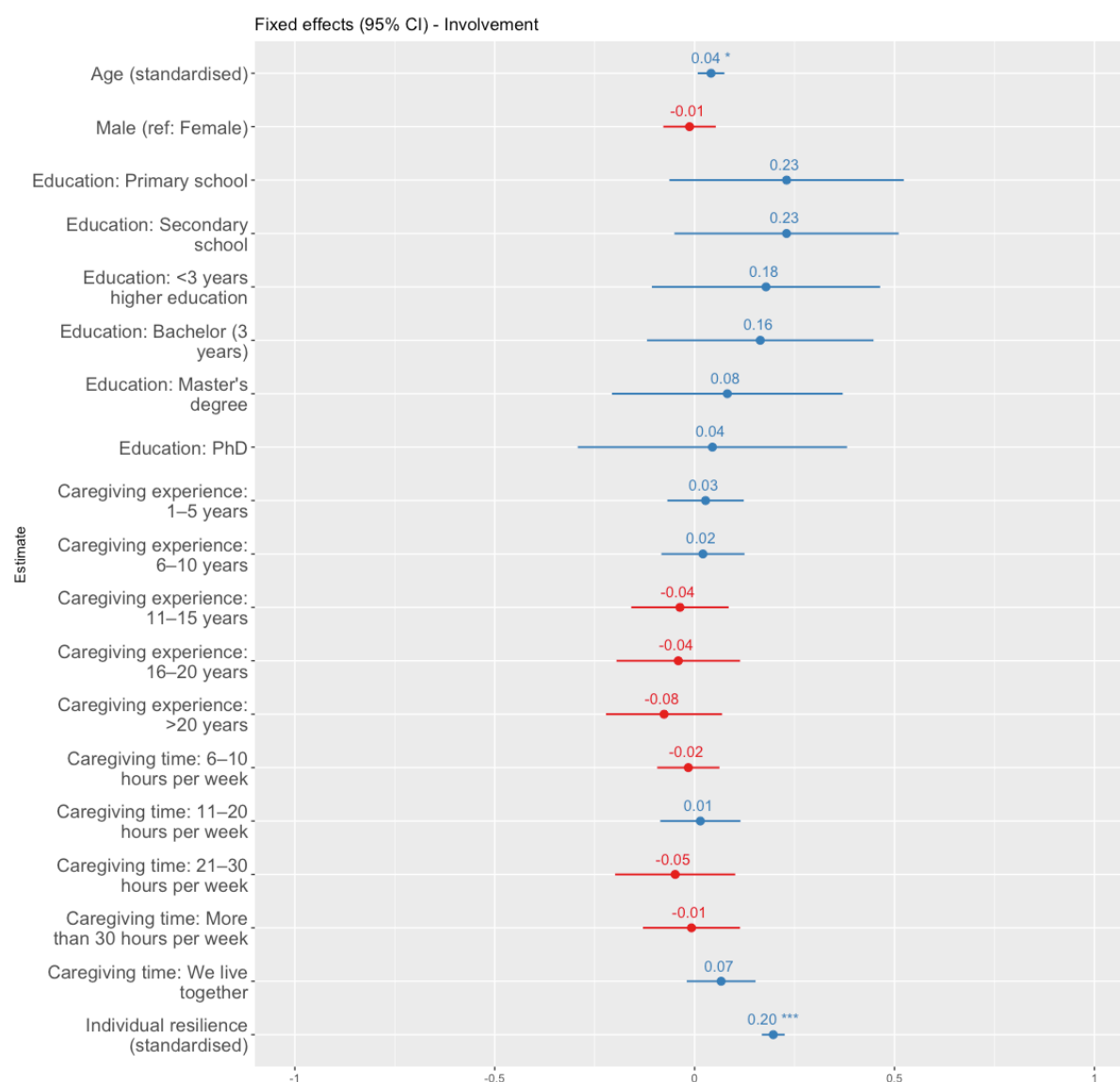
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Figure 55. Forest plot of the regression model (involvement / informal caregivers)

The forest plot provides a visual representation of the regression model. Regarding age, being older was associated with slightly higher involvement (β = 0.04). Education and caregiving experience showed no consistent or statistically significant associations with involvement. Regarding caregiving time, the coefficients were generally small and not statistically significant. Finally, individual resilience was strongly and positively associated with involvement (β = 0.20).
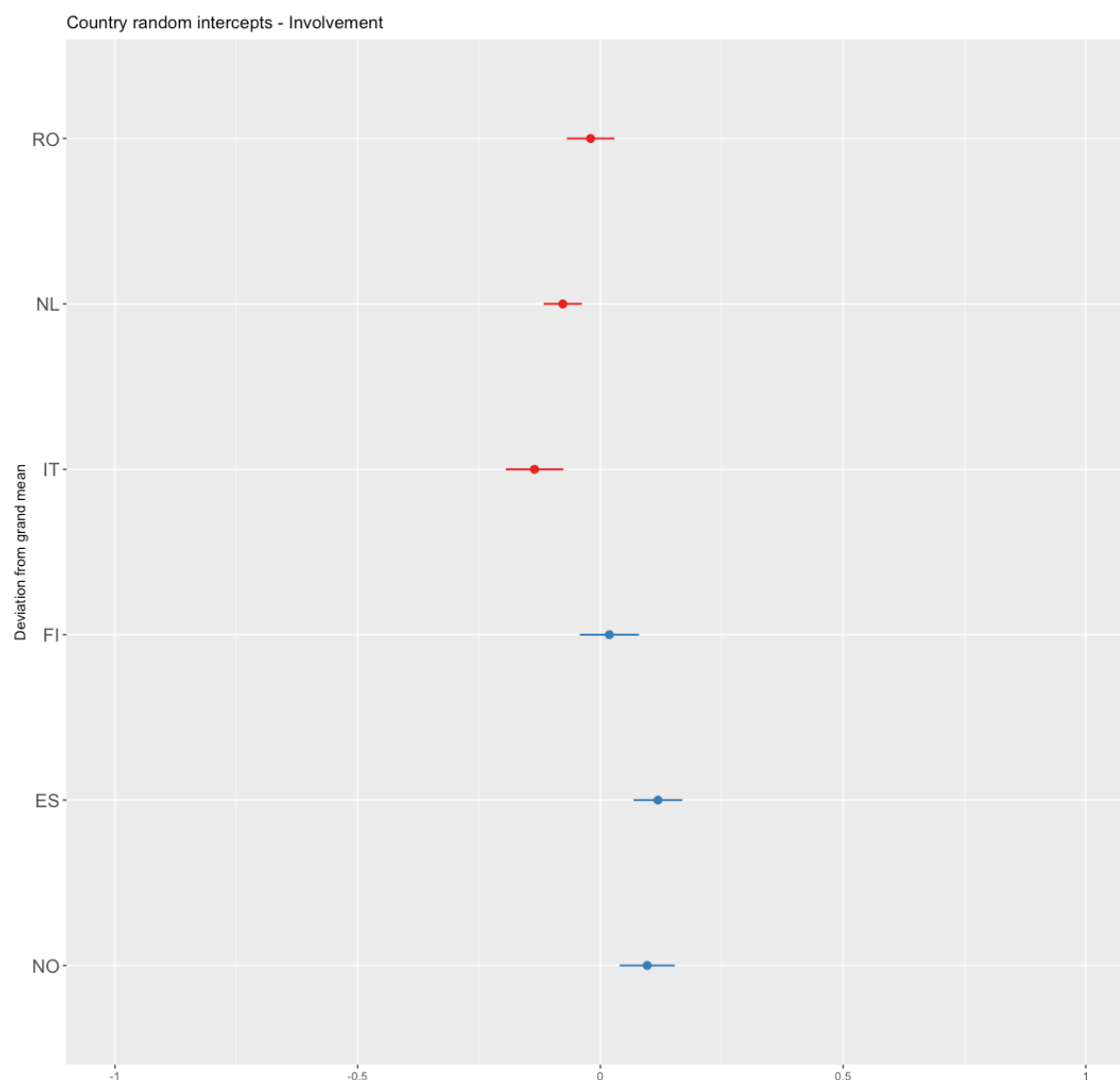
Figure 55. Forest plot of the regression model (involvement / informal caregivers / country)

The forest plot provides a visual representation of the country-level random intercepts for involvement. Compared to the overall mean, the Netherlands (NL) and Italy (IT) showed slightly lower levels of involvement, while Spain (ES), and Norway (NO) showed slightly higher levels. The differences between countries were relatively small, but the plot indicates some variation in average involvement across countries.

3.3.2.3 Risk of burden

A two-level (hierarchical) linear mixed-effects model was run to investigate the risk of burden of informal caregivers:

- Level 1: individual-level predictors (age, gender, education, caregiving experience, caregiving time, individual resilience).
- Level 2: country, entered as a cluster (random intercept) to account for dependency of individuals within countries.

A summary of the model is available in Table 14.

Table 14. A two-level linear mixed-effects model (risk of burden / informal caregivers)

Predictors	Risk of burden		
	Estimates	std. Error	p
(Intercept)	0.28	0.12	0.022
age_z	-0.02	0.01	0.071
genderMale	-0.10	0.03	<0.001
education_recodedPrimary school	0.01	0.12	0.910
education_recodedSecondary school	-0.06	0.11	0.581
education_recodedLess than three years of higher education (university or similar)	-0.10	0.11	0.363
education_recodedBachelor/ three years of higher education (university or similar)	-0.03	0.11	0.755
education_recodedMaster's degree	-0.03	0.11	0.774
education_recodedPhD	-0.08	0.13	0.572
caregiving_experience1-5 years	-0.01	0.04	0.782
caregiving_experience6-10 years	-0.00	0.04	0.991
caregiving_experience11-15 years	0.03	0.05	0.475
caregiving_experience16-20 years	0.05	0.06	0.385
caregiving_experienceMore than 20 years	-0.00	0.06	0.978
caregiving_time6-10 hours per week	0.10	0.03	0.001
caregiving_time11-20 hours per week	0.16	0.04	<0.001
caregiving_time21-30 hours per week	0.23	0.06	<0.001
caregiving_timeMore than 30 hours per week	0.28	0.05	<0.001
caregiving_timeWe live together	0.21	0.03	<0.001
res_z	-0.13	0.01	<0.001

Random Effects

σ^2	0.18		
$\tau_{00 \ country}$	0.01		

ICC	0.06
N $_{country}$	6
Observations	1517
Marginal R^2 / Conditional R^2	0.126 / 0.174

The reference for the categorical variables is:
- Gender: Female
- Education: Primary school
- Experience: Less than 1 year

The model shows that the statistically significant predictors for risk of burden among informal caregivers are gender, individual resilience and some levels of caregiving time. Age, education or caregiving experience were not significant predictors. The model has a reasonable fit since it explains 17.4% of the variation. The inter-cluster correlation coefficient is 0.06, indicating that 6% of the variation in risk of burden is attributable to differences between countries.
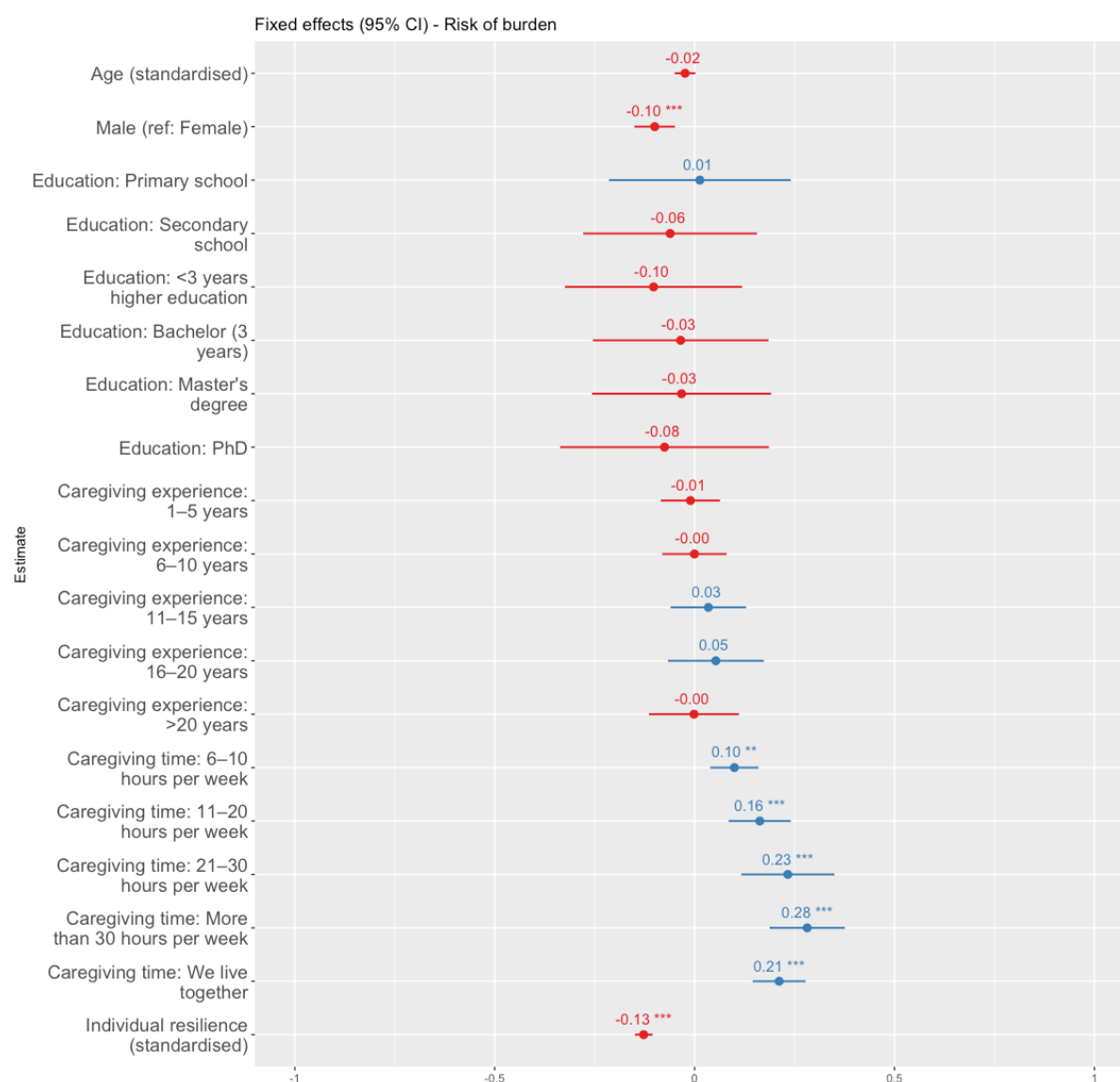
Figure 56. Forest plot of the regression model (risk of burden / informal caregivers)

The forest plot provides a visual representation of the regression model. Regarding gender, being male was associated with a lower risk of burden compared to being female (β = -0.10). Regarding caregiving time, providing 6–10 hours per week (β = 0.10), 11–20 hours (β = 0.16), 21–30 hours (β = 0.23), more than 30 hours per week (β = 0.28), or living together with the care recipient (β = 0.21) were all associated with a higher risk of burden compared to fewer than 6 hours per week. Finally, individual resilience was strongly associated with a lower risk of burden (β = -0.13). Other predictors, including age, education, and caregiving experience, did not show significant associations.
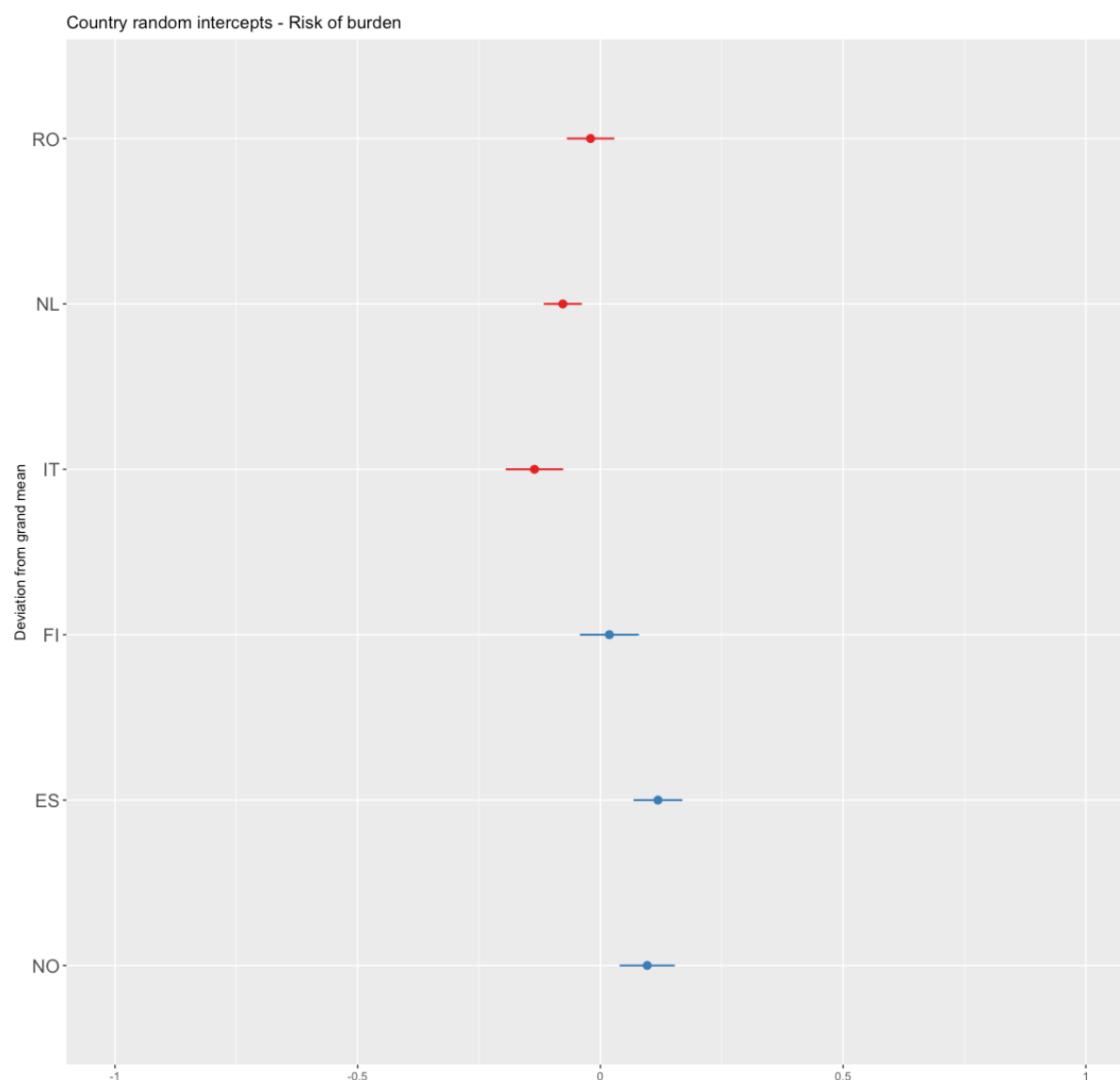
Figure 57. Forest plot of the regression model (risk of burden / informal caregivers / country)

The forest plot provides a visual representation of the country-level random intercepts for risk of burden. Compared to the overall mean, the Netherlands (NL) and Italy (IT) showed slightly lower levels of burden risk, while Spain (ES) and Norway (NO) showed slightly higher levels. The differences between countries were relatively small, but the plot indicates some variation in the average risk of burden across countries.

4. Concluding remarks

The completion of this data analysis represents an important milestone for the Support4Resilience project. By consolidating survey data from six European countries and three key stakeholder groups—healthcare workers, leaders, and informal caregivers—we now have a comprehensive overview of wellbeing, resilience, and caregiving dynamics in elderly care. This cross-country and cross-stakeholder perspective is particularly valuable, as it highlights both common challenges and context-specific differences, offering a nuanced understanding of the conditions under which resilience can be strengthened.

Beyond its scientific contribution, this analysis provides the project consortium with a strong evidence base for practical action. The findings will directly inform the design, development, testing, and evaluation of the resilience toolbox, which is the main product of the project. Grounding the toolbox in robust empirical data ensures that it will be relevant to diverse care settings, adaptable across national contexts, and responsive to the lived experiences of those most engaged in elderly care. In this way, the analysis not only advances knowledge but also lays the foundation for creating solutions with tangible impact for workers, leaders, and caregivers across Europe.

Limitations

The data presented in this deliverable should be interpreted in light of several limitations. First, the sampling approach was not randomised and may not fully represent the entire population of elderly care workers, leaders, or informal caregivers in each participating country. Recruitment relied on partner networks and voluntary participation, which could lead to self-selection bias.

Second, variations in the timing and method of data collection across countries (e.g., online vs. in-person, differing time windows) may have influenced response rates and comparability.

Third, while efforts were made to ensure the validity of the translated instruments, minor linguistic and contextual differences may affect cross-country comparability.

Lastly, as this analysis presents baseline descriptive results, causal inferences cannot be drawn. These findings are, however, crucial for informing the design, implementation, and evaluation of the Support4Resilience Toolbox.

References

1. Blanca MJ, Alarcón R, Arnau J, Bono R, Bendayan R. Non-normal data: Is ANOVA still a valid option? Psicothema. 2017 Nov;29(4):552–7.