Dual Careers for Mental Health (DC4MH)

NATIONAL REPORT WP1

Mental health in Slovenian student-athletes, non-student athletes, and non-athlete students

Saša Cecić Erpič[1] & Janja Tekavc[2]

[1] University of Ljubljana, Slovenia
[2] Gimnazija Šiška, Slovenia

Univerza *v Ljubljani*
Fakulteta *za šport*

Participants

General characteristics of Slovenian sample

- 307 participants in total, 281 completed the entire instrument.

- Age distribution:
    o from 14 to 27 years old
    o 55,16% (N = 155) were bellow 18 years old and 44,84% (N = 126) were 18 or over. M_{age} = 17.76, SD = 2.82

- Gender distribution:
    o the sample consists of 200 female (66,01%) and 103 (33,99%) male participants
    o gender distribution within the Slovenian sample shows that two thirds were female participants

- Different groups of participants (see Figure 1):
    o 50,49 % (N = 155) DC sport and education
    o 0.65 % (N = 2) DC sport and work
    o 45.93 % (N = 141) Student-non-athletes
    o 2,93 % (N = 9) Non-DC athletes

- As seen above, half of the Slovenian sample covers DC sport and education participants. The other almost half of the sample are students that are not athletes. As there are only 2 participants that combine sport and work and 9 who are athletes but not in DC, the comparison between four groups would not be accurate. This is one of the limitations of the study.
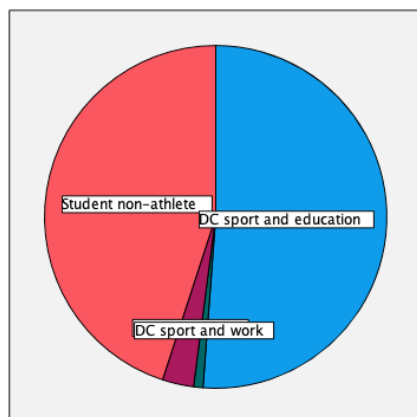

Figure 1: Different groups of participants distribution

Athletic characteristics of Slovenian sample

- *Athletic sample* is characterized by Figures 2-5. As follows from the figures, the dominant categories of participants were: national and regional level athletes (83%), team sports athletes (70%), representatives of non-Olympic disciplines (39%), summer Olympic sports (38%), and winter Olympic sports (13%). We estimate the amount of Olympic/Paralympic and international level athletes as modest (17%).

- Dominant sports in the sample include floorball (n = 103), soccer (n = 46), and handball (n = 62). Among induvial sports Orienteering (n = 22) and Swimming (n = 20) had the largest number of participants.
- Most athletes competed in team sports (n = 107; 65,2%). Only third of the sample competed in the individual sport disciplines (n = 57; 34,8%).
- On average, the participants reported taking part in sport activities 17 hours/week and competing for 15 days per year.
- About 75% of athletes were not injured when responded to the DC4MH survey. Percentage of injured athletes (25%) who responded we estimate as rather high, which we interpret in a way that injured athletes could have some mental health issues, and therefore were motivated to take part.
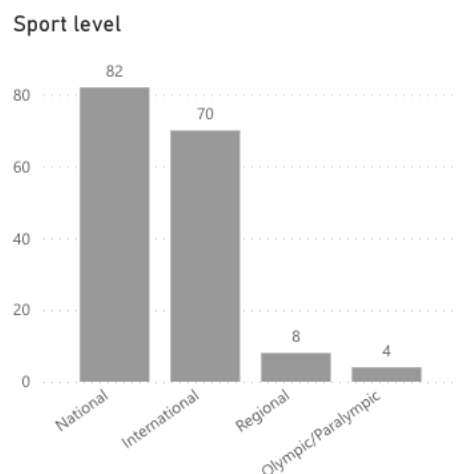
Figure 2: Sport level

Type of sport

7 (4,58%)

40 (26,14%)

105 (68,63%)

- ● Olympic summer sport
- ● Non-Olympic sport
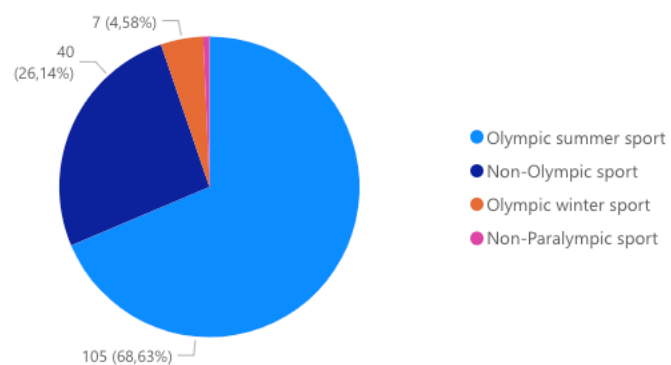- ● Olympic winter sport
- ● Non-Paralympic sport

Figure 3: Distribution of participants representing various sport disciplines in the Slovenian national sample

DC4MH results

Study constructs:
  a) Mental health
  b) Dual Career experiences
  c) Mental Health Literacy
  d) Resilience
  e) Mental ill-health
  f) Life satisfaction

Mental Health (MH)

The MHC-SF data of Slovenian sample (N = 339) are presented on Figures 5 – 9.

- Figure 5 demonstrates that in the last month before completing DC4MH survey Slovenian participants on average felt relatively good. On a scale from 0 to 5, these were the average factor scores:
    - overall MH: M = 2.84 ($M_{whole\ DC4MH\ sample}$ = 3.20)
    - emotional wellbeing: M = 3.18 ($M_{whole\ DC4MH\ sample}$ = 3.54)
    - social wellbeing: M = 2.46 ($M_{whole\ DC4MH\ sample}$ = 2.68)
    - psychological wellbeing: M = 3.00 ($M_{whole\ DC4MH\ sample}$ = 3.45)
- The social wellbeing was the factor that Slovenian participants (as well as their European peers) were the least satisfied with. As the survey took place in the second half of 2021, when the whole Europe was severely affected by the COVID-19 pandemic, this might influenced the results.
- In comparison to the European sample, Slovenian participants felt lower and less positive means regarding all of the MHC-SF factors.
- Figure 6 presents means of the MHC-SF items. The two highest scores (M = 3.35) are shown in regard to feeling happy and having warm and trusting relationships. 47% of the sample felt happy almost every day or even every day, while 51% of the sample felt every day (or almost every day) that they have warm and meaningful relationships. Among the highest scores were also feelings that the person belongs to a community, is interested in life, and is satisfied with it. The lowest scores were related to the way ones society works (M = 1.93) and that the society is a good place for all people (M = 2.11).
- Lower social wellbeing issues are also shown in the European DC4MH sample, which can be explained by COVID-19 pandemic situation that restricted social contacts.
- Figure 8 shows the comparative analysis of the MHC-SF factors in the four-sub populations of the Slovenian sample. Best scores in all of the sub-populations are shown in terms of the emotional wellbeing. As there were only two participants who combine sport and work, this subgroup will not be discussed in the results. Among the three remaining subgroups, DC athletes who are also in education scored the highest on overall MH, emotional wellbeing, social wellbeing, as well as psychological wellbeing. Student non-athletes are the least satisfied will all four factors of wellbeing.
- These results can be explained by the positive effects that combining sport and education can have on student-athletes.
- Figure 9 shows dominance of moderate MH (59.3% of participants reported that their MH is moderate). The MH of 30.1% of participants is flourishing, while 10.6% of participants have languishing MH. The comparison between two biggest subsamples, DC athletes (sport and education) and students non-athletes show that more DC athletes have moderate (64.2%) MH than students who are not athletes (52.0%). Regarding the flourishing MH, more students non-athletes report that their MH is flourishing (32.2%) in comparison to DC athletes (29.5%).
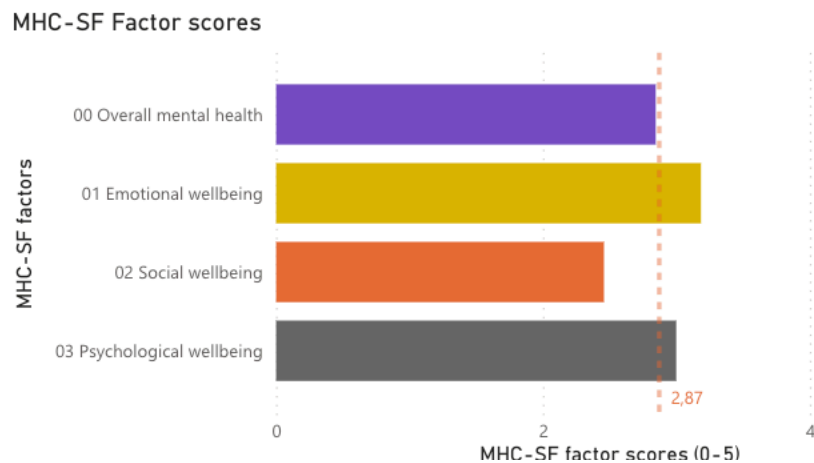
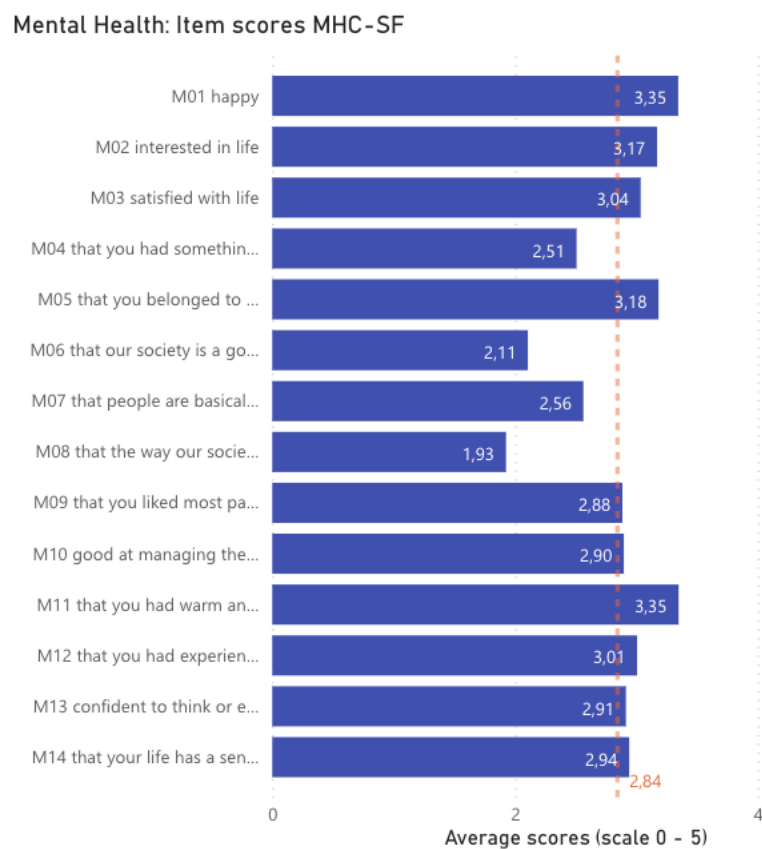Figure 5: Mean values on the mental health factors of Slovenian sample

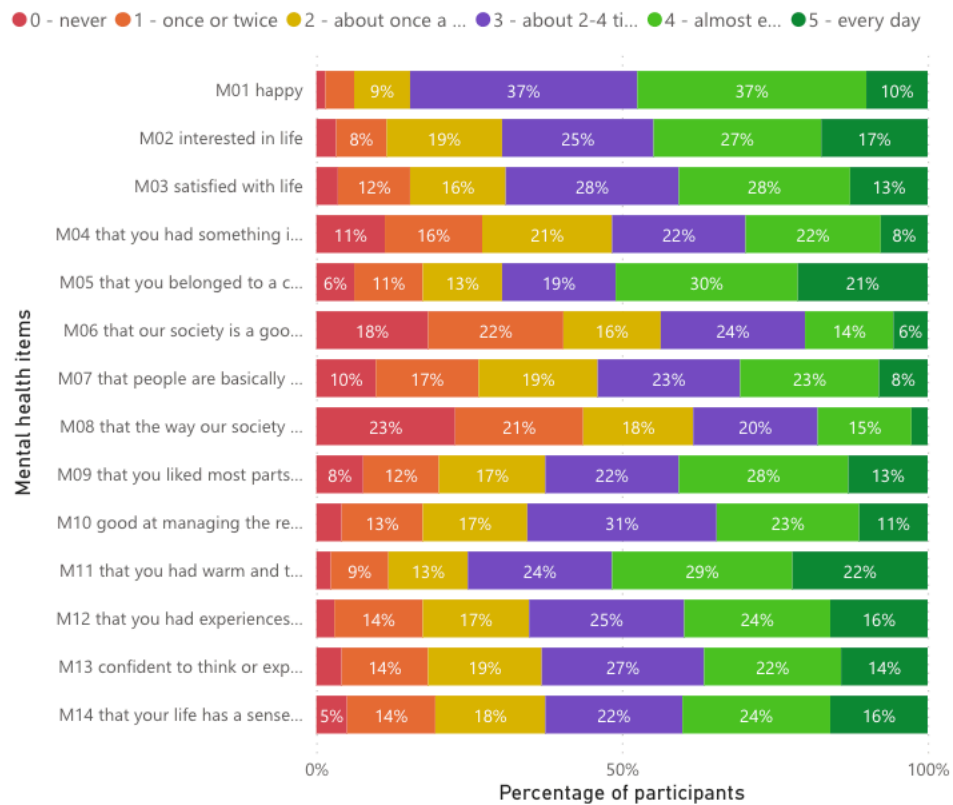Figure 6: Mean values for mental health items of Slovenian sample

Figure 7: Frequencies of mental health items of Slovenian sample
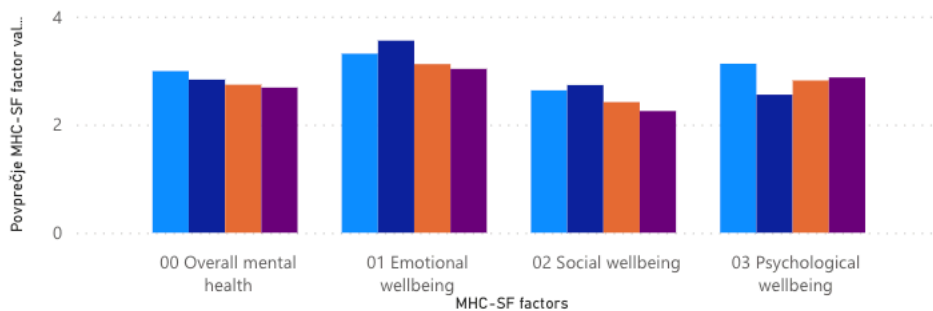

Figure 8: Comparison in mental health factors between the sub-populations of Slovenian sample

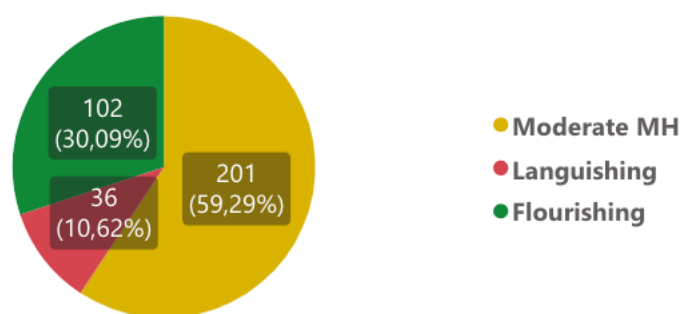MHC-SF Three Category Diagnosis of Positive Mental Health

Figure 9: Distribution of Slovenian participants within the MHC-SF categories

Dual Career Experiences (DCE)

Instrument
- Dual career experiences were measured with a 24-items Dual career experiences questionnaire.
- For each of the 24 statements, the participant indicates how often he/she experienced them as a student-athlete (4-point scale; almost never, sometimes, often and almost always.
- Out of 24 items, 18 statements are positively worded (DC competencies and benefits, DC support) and 6 items are about the negative experiences (challenges or barriers).
- The factor structure showed that DCE covers three factors of DC: DC competencies and benefits (internal DC resources, 12 items), negative DC experiences (DC stressors, 6 items), and DC support (6 items).

KEY FINDINGS

Dual career (sport and education or work) experiences of Slovenian participants (N = 173) are presented on Figures 10-13.

- Figure 10 presents means for the DCE item-by-item. As expected, positive experiences have higher means (i.e., student-athletes' to these contents are closest to "almost always"). The item with the highest mean is getting support from athlete's inner circle (close family and friends) for DC (M = 3.7) and getting support from the coach (M = 3.4). Other items with high means are: I feel supported to make my own DC related decisions (M = 3.3), I feel that I developed as a person (M = 3.2), and I get the necessary flexibility form school so that I can combine sport and school (M = 3.1). The items with the lowest mean scores: I'm good in shifting priorities between sport, studies and social life to maintain a healthy balance (M = 2.3), and I'm good in managing my daily routines (M = 2.4).
- Figure 11 the mean factor scores:
  - overall DC experiences (M_{SLO} = 2.8; $M_{whole\ DC4MH\ sample}$ = 2.99)
  - DC competencies and benefits (M_{SLO} = 2.7; $M_{whole\ DC4MH\ sample}$ = 3.01)
  - negative DC experiences (M_{SLO} = 2.4; $M_{whole\ DC4MH\ sample}$ = 2.19)
  - DC support (M_{SLO} = 3.2; $M_{whole\ DC4MH\ sample}$ = 3.15)
- Figure 11 shows that Slovenian DC athletes have more positive DC support, while on all other three factors they score lower (less favourable results). However, the differences between Slovenian and European mean values are relatively small.
- Figure 12 shows gender differences regarding DCE factor scores. As only two participants identified themselves as non-binary, further comparison will be between females and males. Comparison between genders show that on general male DC athletes have more positive DC experiences (male score higher on all 3 positive factors and lower on the negative factor. However, differences between two gender groups are relatively small.

- Figure 13 shows Dc experiences of DC athletes who are still in the secondary education and those who are university students. Secondary DC athletes evaluate their DC related support as higher than older DC students. However, university students evaluate their DC competencies and benefits as more positive than younger participants. At the same time, university students report about more negative DC experiences. All these results are congruent with findings from previous studies of this consortium (e.g., Gold in Education and Sport, GEES, report).

Figure 10: Scores of DCE items of Slovenian sample (items 13 and 18 are negatively worded)
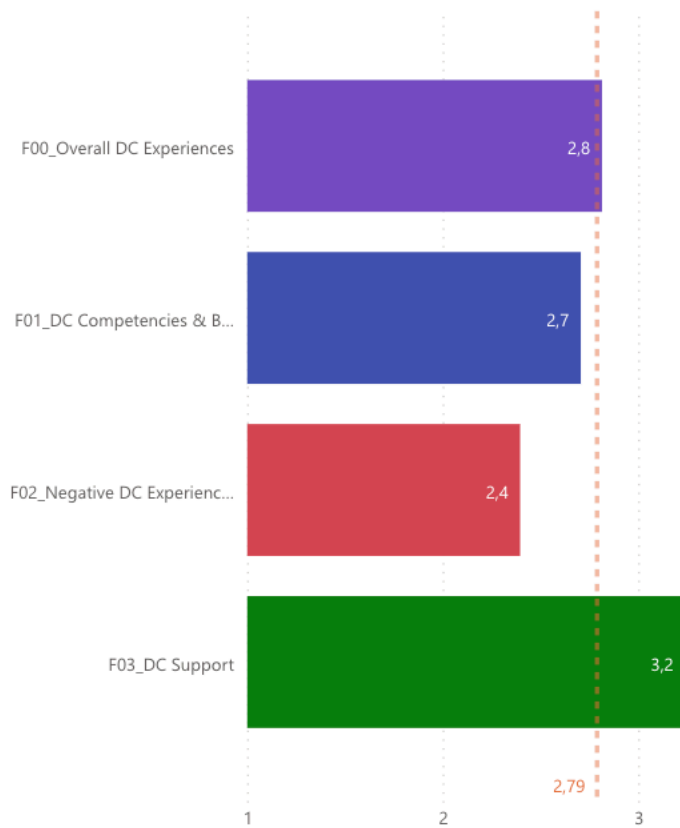
Figure 11: Mean values for the four DCE factors in Slovenian sample (negative DCE experiences are show as one of the factors)
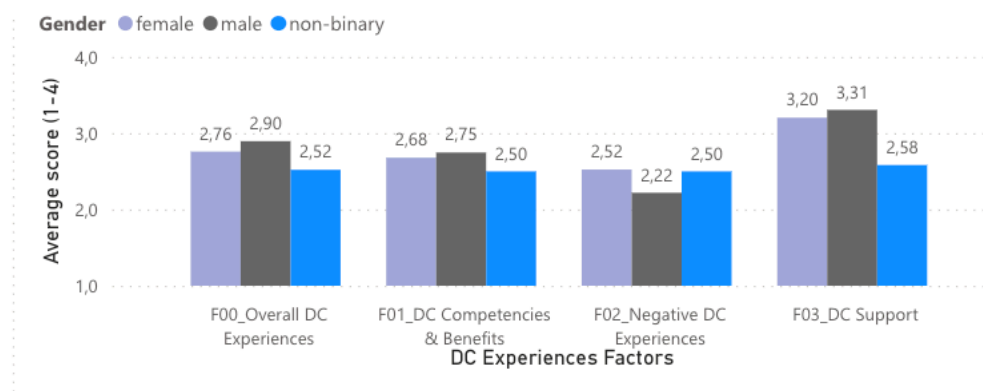

Figure 12: DCE factor scores between genders – Slovenian sample

DC Experiences factor scores between educational stage

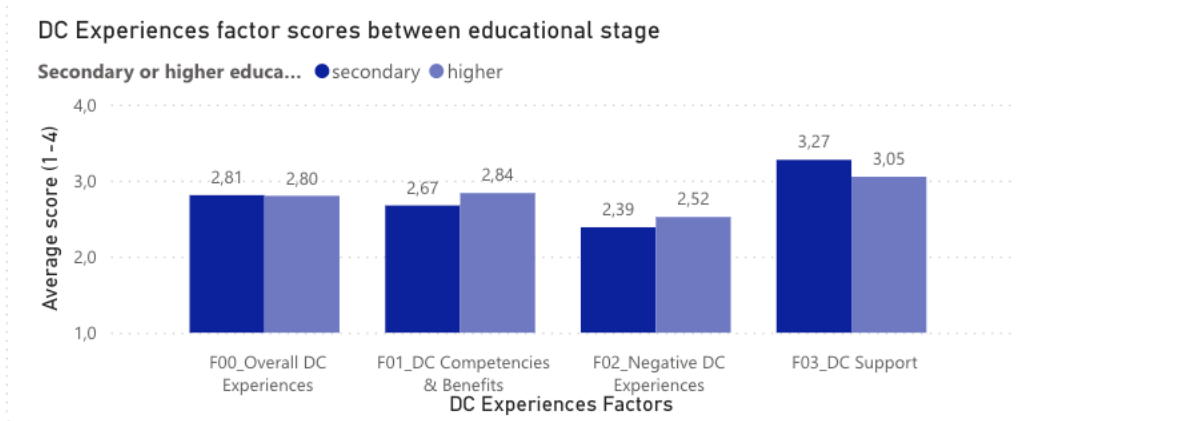Secondary or higher educa... ● secondary ● higher

Figure 13: DCE factor scores between educational stages – Slovenian sample

Mental Health Literacy (MHL)

Instrument
- Mental Health Literacy Scale (MHLS) was developed for the purposes of the DC4MH project.
- 12 statements about mental health; 5-point Likert type scale (1 – strongly disagree, 2 – somewhat disagree, 3 – neither agree not disagree, 4 – somewhat agree, 5 – strongly agree).
- The participants indicate to what extent he/she agrees with the statements.

KEY FINDINGS

Results on MHL 12 scale of Slovenian sample (N = 336) are presented on Figures 14-15.

- Within the MHL scale (Figure 14) the results of seven items were above the mean score of 2.73. The results show that Slovenian participants "somewhat agree" with major factors contributing to MH, including recovery, meaningful and enjoyable activities, and engaging regularly into social activities. They also well understand that mental health helps to cope with stressors of normal everyday life. If Slovenian participants would experience the deterioration of MH, they would not try to hide it from others (negative wording, therefore low M represents favourable result). They somewhat disagree that seeing a mental health professional means you are not mentally strong enough to manage own difficulties.
- Slovenian female participants showed slightly higher scores on understanding factors contributing to MH and their important role in dealing with stressors of everyday (Figure 15). Male participants were more prone to agree that mental health problems are less serious than medical (or somatic) problems. They also demonstrated higher stigma regarding seeking professional help compared to female Slovenian participants.
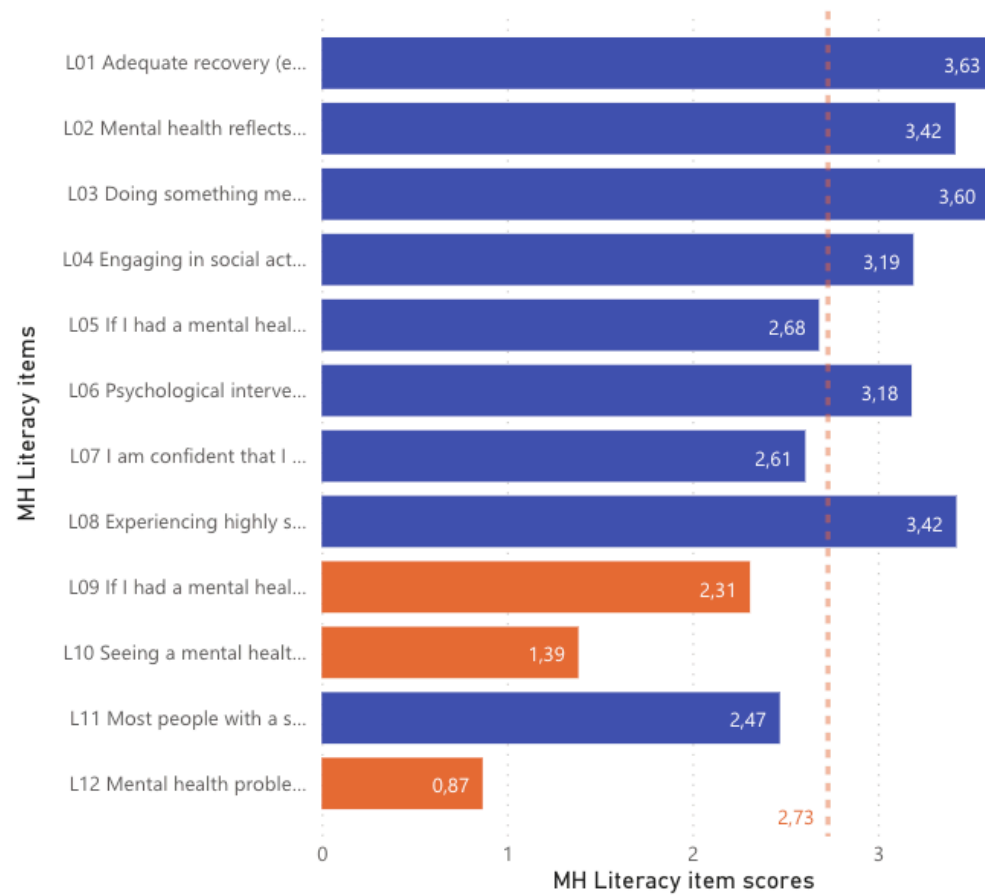
Figure 14: Scores of MHL items of Slovenian sample

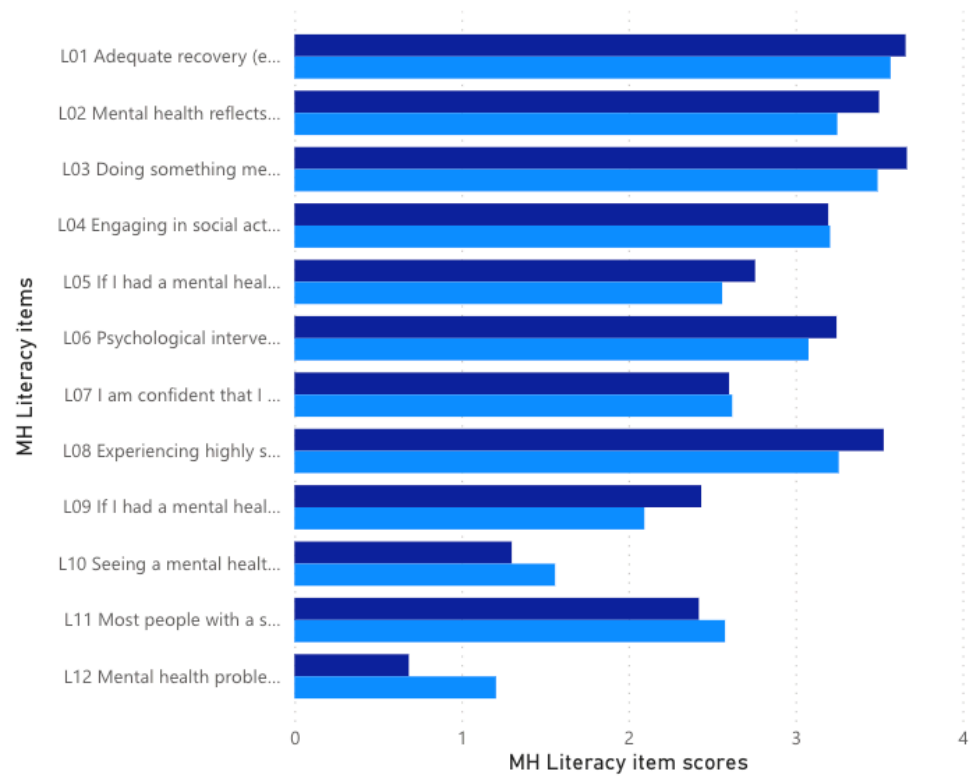## MH Literacy item scores per gender

Gender ● female ● male

Figure 15: Comparison on MH literacy item scores between males and females in Slovenian sample

Resilience (CD-RISC 10)

Instrument
- measured with CD-RISC 10 scale that measures how a person deal or approaches the challenges
- 10 items scale
- respondents indicate how true is the statement for oneself.
- 5-point scale: 1 – not true at all, 2 – relatively true, 3 – sometimes true, 4 – often true, 5 – true nearly all the time
- Resilience was explored including 335 Slovenian participants.

KEY FINDINGS

Figures 16 and 17 present item-by-item means of resilience scores (CD-RISC 10) for the total Slovenian sample and with gender differences correspondingly.

- Key findings on the CD-RISC 10 item level (Figure 16) were very similar to the European DC4Mh sample. Item with the highest mean value (M = 3.04) is related to achieving goals even if there are obstacles. Other items with high means are: I'm able to adapt when changes occur (M = 2.77), I tend to bounce back after hardship (M = 2.46).
- Comparing resilience across genders (Figure 17) showed that males perceived themselves as more resilient than females across all the items.
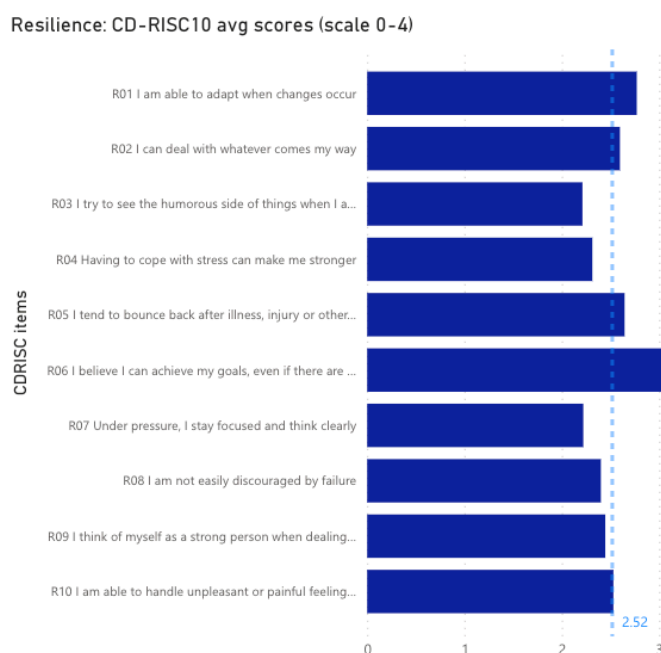
Resilience: CD-RISC10 avg scores (scale 0–4)

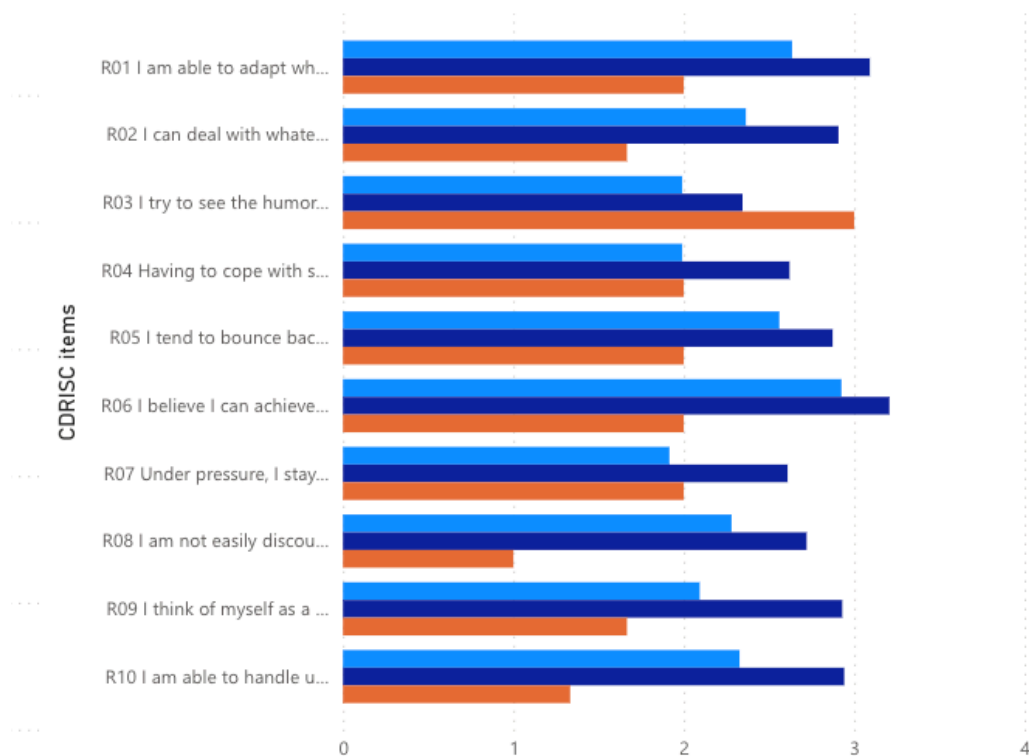Figure 16: Scores for the resilience items of Slovenian participants (N = 335)

Figure 17: Gender differences in resilience item scores in Slovenian sample

DC4MH – Mental ill-health (MIH)

Instrument
- Mental ill-health (MIH) was measured with two instruments: GAD-7 (anxiety) and PHQ-9 (depression).
- Slovenian sample: N = 199
- Both instruments measure mental ill-health that participants experienced during last two weeks before completing the survey.
- 3-point frequency anchors: 0 – not at all, 3 – nearly every day

KEY FINDINGS

Results are shown in Figures 18-24.

- Based on figure 18 88% of Slovenian participants didn't report any MIH issues during two weeks prior to completing the survey. Only 8% perceived some symptoms and 4% preferred not to respond. Figure 18 further confirm that 79% of participants didn't recently address for professional help regarding MIH issues. 10% of participants used professional help in the past, and 8% were under professional

- treatment due to the MIH issues when responded to the study. These results are congruent with European DC4MH sample.
- As Figure 19 shows, highest percentages for anxiety symptoms experienced by the Slovenian participants more than half the days and nearly every day were: worrying too much about different things (52%), feeling nervous, anxious or on edge (48%), becoming easily annoyed or irritable (42%). These results are congruent with European DC4MH sample.
- Implementation of GAD-7 cut-offs (Figure 20) revealed that majority of Slovenian sample experienced no (15.45%) or mild anxiety (39.1%). The rest of the sample reported moderate (25.8%) or severe anxiety (19.7%). Compared to the European sample, the Slovenian participants reported more frequent anxiety symptoms.
- As Figure 21 shows female Slovenian participants experienced visibly higher level of anxiety (M = 10.6) than male participants (M = 7.9).
- Based on the PHQ-9, among depression symptoms (Figure 22) experienced by Slovenian participants more than half the days or nearly every day during last two weeks before completing the survey were: feeling tired or having little energy (56%), trouble falling or staying asleep (52%). These results are congruent with European DC4MH sample.
- implementation of PHQ-9 cut-offs (Figure 23) that more than half of the sample experienced no (21.2%) or mild depression (34.2%). 25.4% of participants reported experiences with moderate depression, while 11.2% experienced moderately severe depression related symptoms. 8.00% of participants had severe depression. These results are skewed to the negative side in all cut-off labels compared to the European sample.
- Differences in depression scores between gender groups (Figure 24) are similar to GAD-7 data. Female participants experienced visibly higher level of depression (M = 10.43) compared to male participants (M = 7.71).
- To sum up, quite a lot of Slovenian participants reported MIH issues. Slovenian participants report mental ill-health issues more often than the European DC4Mh sample.
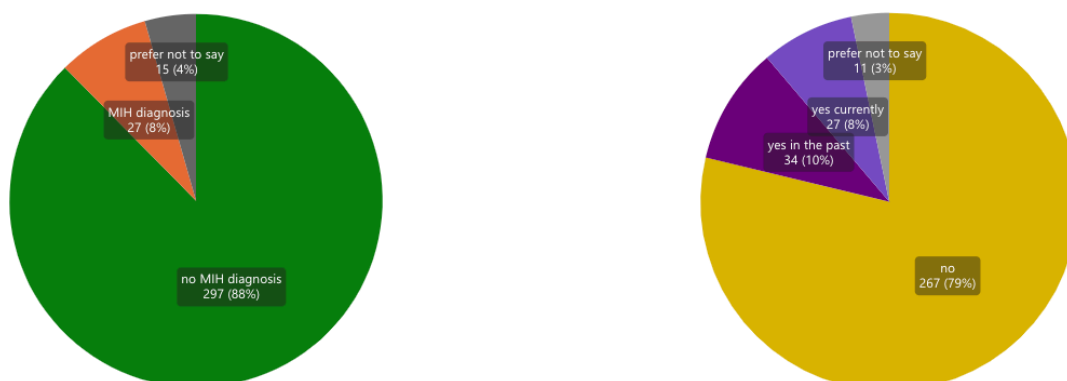

Figure 18: Prevalence of mental ill-health (MIH) diagnosis (left) and seeking help (right) of Slovenian sample.
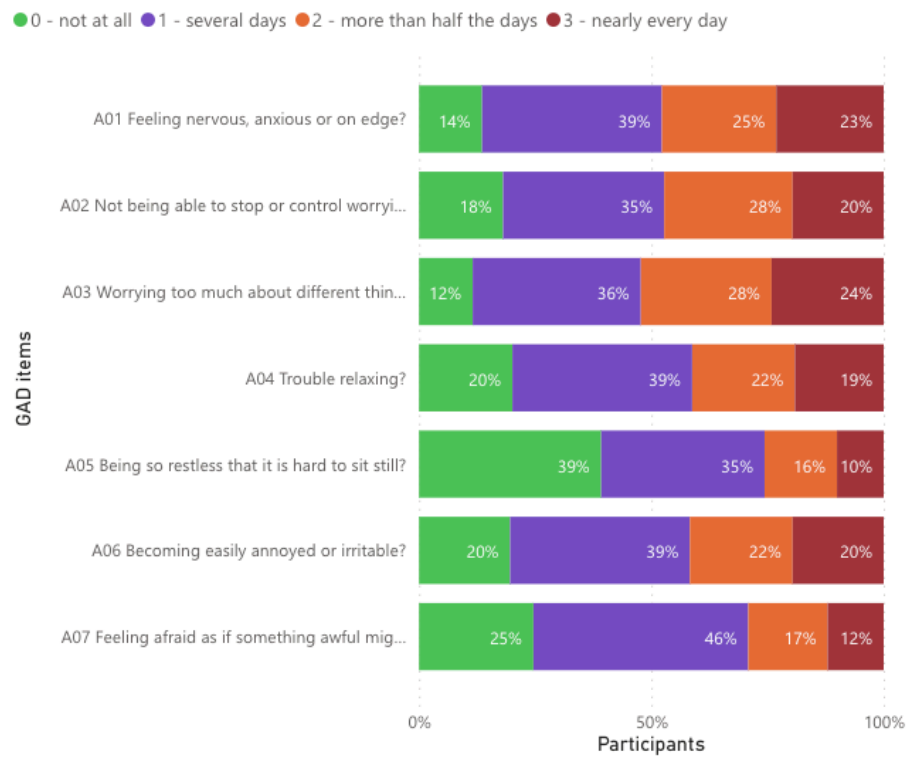
Anxiety: GAD-7 frequencies

● 0 - not at all ● 1 - several days ● 2 - more than half the days ● 3 - nearly every day

GAD items	0 - not at all	1 - several days	2 - more than half the days	3 - nearly every day
A01 Feeling nervous, anxious or on edge?	14%	39%	25%	23%
A02 Not being able to stop or control worryi...	18%	35%	28%	20%
A03 Worrying too much about different thin...	12%	36%	28%	24%
A04 Trouble relaxing?	20%	39%	22%	19%
A05 Being so restless that it is hard to sit still?	39%	35%	16%	10%
A06 Becoming easily annoyed or irritable?	20%	39%	22%	20%
A07 Feeling afraid as if something awful mig...	25%	46%	17%	12%

Figure 19: Distributions of answers on GAD-7 anxiety items in Slovenian sample

Anxiety: GAD-7 cut-offs

65 (19.7%)
51 (15.45%)
85 (25.76%)
129 (39.09%)

Anxiety cut off
● 1 - no anxiety
● 2 - mild anxiety
● 3 - moderate anxiety
● 4 - severe anxiety
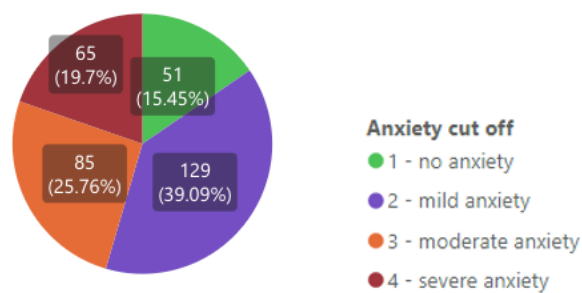
Figure 20: GAD-7 cut-offs for Slovenian sample
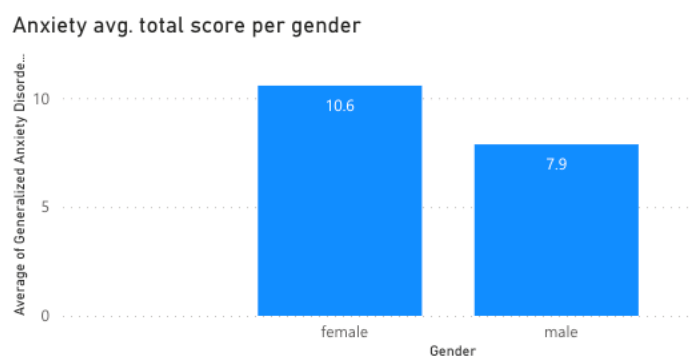
Figure 21: Average anxiety scores in female and male Slovenian participants.
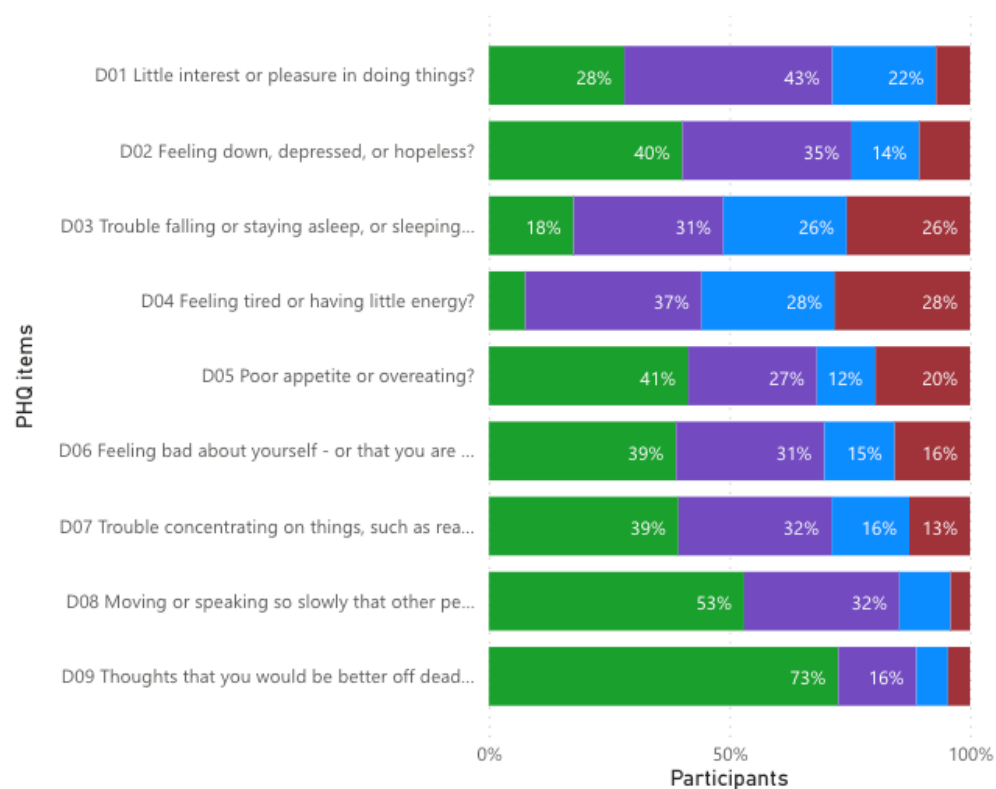

Figure 22: Distribution of answers on PHQ-9 depression items in Slovenian sample.

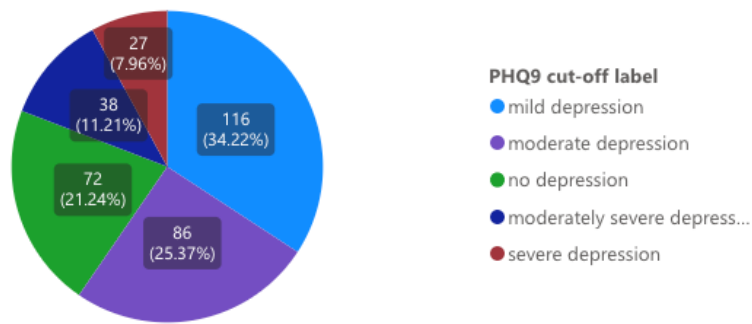## Depression: Cut-off labels

Figure 23: PHQ9 cut-offs for Slovenian sample (depression)
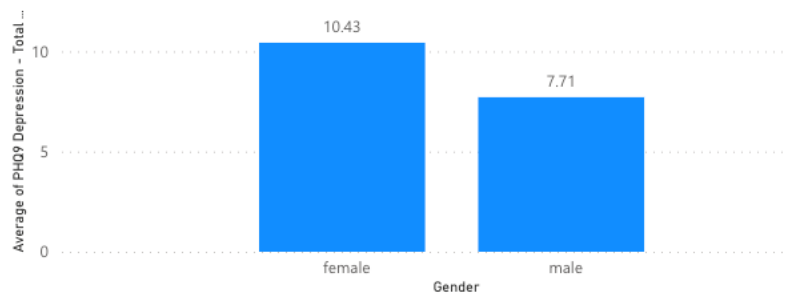
Depression scores between gender

Figure 24: Average depression scores in female and male Slovenian participants.

Life satisfaction and impact of COVID-19 (HMQ)

Instrument
- life satisfaction: respondents evaluated how satisfied are they with different aspects of their life
- 11 aspects of life were evaluated, using 5-point Likert type scale (1 – very dissatisfied, 3 – neither satisfied nor dissatisfied, 5 – very satisfied)
- for the same 11 life domains, participants were asked to evaluate how COVID-19 affected these aspects of life during the past month
- Slovenian sample: N = 197

KEY FINDINGS

Results are presented in Figures 25-27.

- As shown on Figure 25 majority of Slovenian participants were very satisfied or satisfied with most of the 11 evaluated life domains. They were especially satisfied with their sport (78%), physical health (70%), and dual career (64%). Slovenian participants were the least satisfied with their sleep (31%). They were at least moderately satisfied with the rest of the domains.
- Figure 26 shows perceived influence of COVID-19 on life satisfaction items in Slovenian sample. COVID-19 pandemic had negative or very negative effect on dual career (67%), social life (54%), and sport (43%).
- Figure 27 shows the life satisfaction of injured and non-injured participants. Life satisfaction means of non-injured participants are slightly higher than in injured ones. These results are congruent with European DC4MH sample.
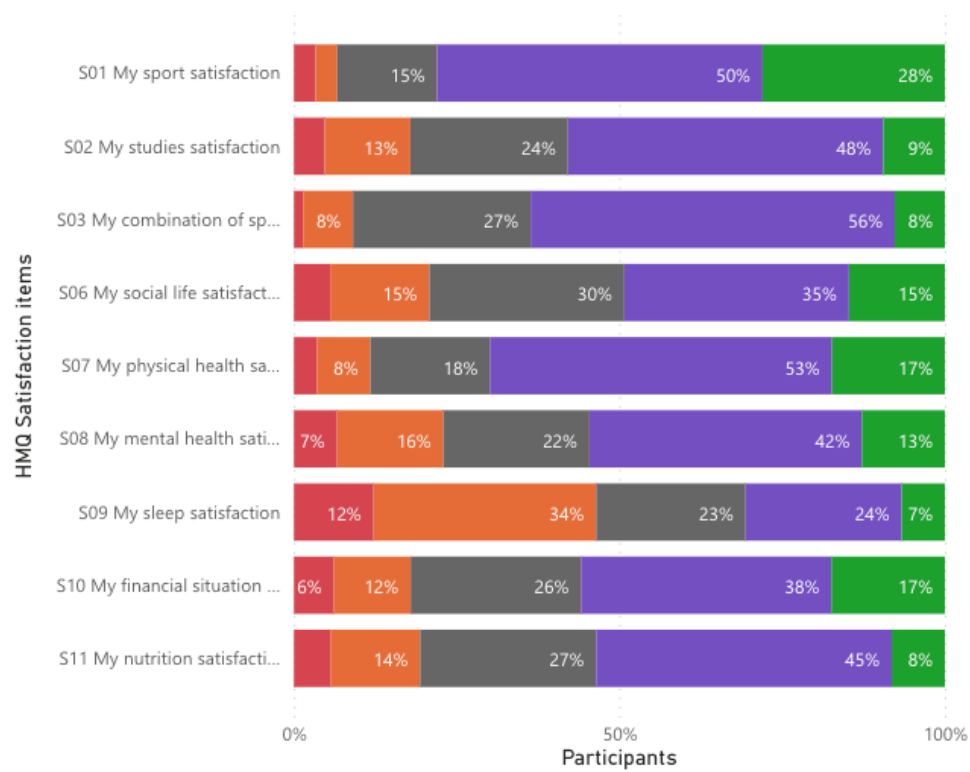
Figure 25: Frequencies of life satisfaction item scores in Slovenian sample
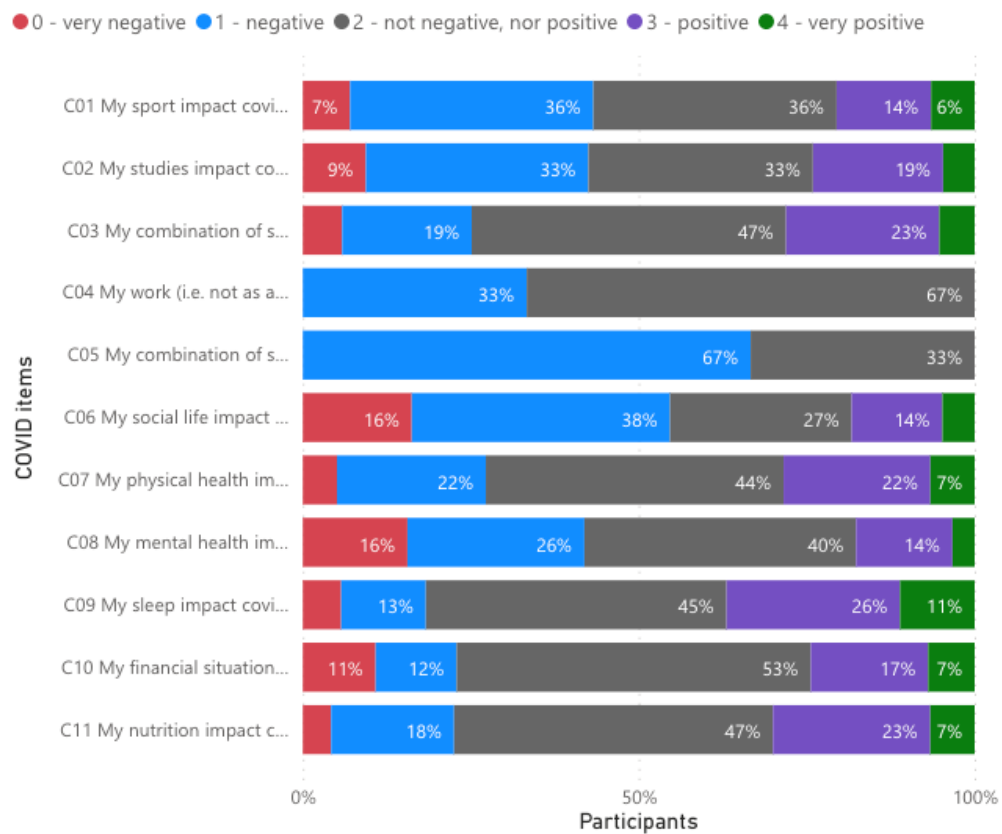
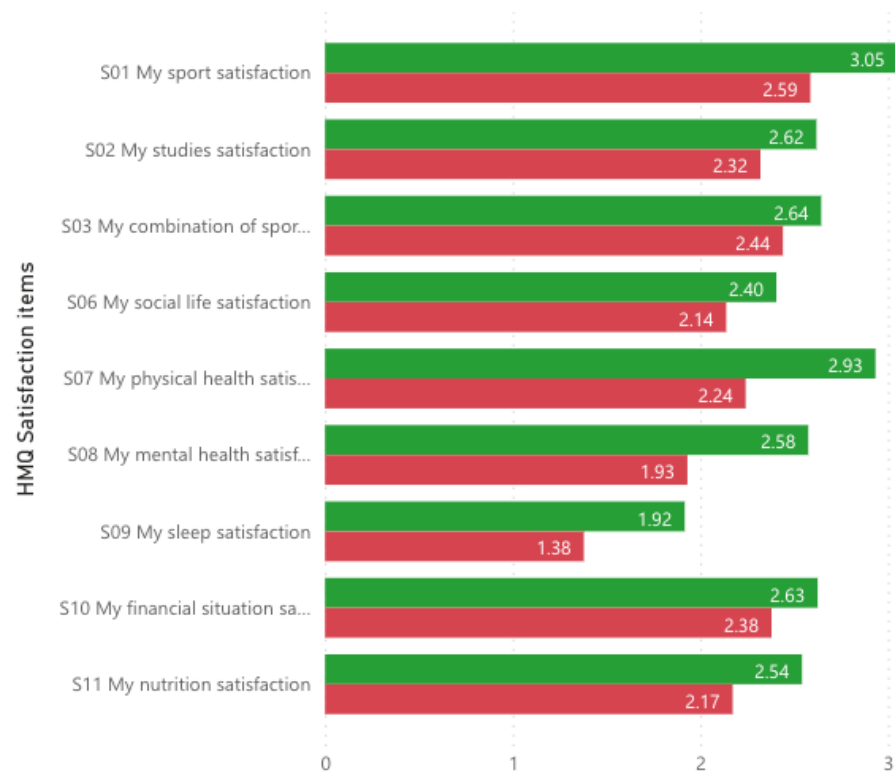Figure 26: Perceived influence of COVID-19 on life satisfaction items in Slovenian sample

Figure 26: Average level of life satisfaction between injured and non-injured Slovenian participants