

Estimating value weights for the OxCAP-MH capability domains across multiple population cohorts in Austria

Timea Mariann Helter¹, Alexander Kaltenboeck², Josef Baumgartner², Franz Mayrhofer³, Georg Heinze⁵, Andreas Sönnichsen⁴, Johannes Wancata², Judit Simon^{1,6,7}

¹Department of Health Economics, Center for Public Health, Medical University of Vienna, Kinderspitalgasse 15, Vienna, A-1090

²Department of Psychiatry and Psychotherapy, Clinical Division of Social Psychiatry, Medical University of Vienna, Währinger Gürtel 18-20, Vienna, A-1090

³Primary Healthcare Center Medizin Mariahilf, Mariahilfer Straße 95, Vienna, A-1060

⁴Department of General Practice and Family Medicine, Center for Public Health, Medical University of Vienna, Kinderspitalgasse 15, Vienna, A-1090

⁵Institute of Clinical Biometrics, Center for Medical Statistics, Informatics and Intelligent Systems, Medical University of Vienna, Spitalgasse 23, Vienna, A-1090

⁶Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford OX3 7JX, UK

⁷Health Economics Research Centre, Nuffield Department of Population Health, University of Oxford, Old Road Campus, OX3 7LF, UK

Oxford CAPabilities questionnaire-Mental Health (OxCAP-MH)

- Based on the capability approach and purposively built for MH setting;
- Self-reported 16-item index measure;
- Domains:
 - Daily activities;
 - Social networks;
 - Losing sleep over worry;
 - Enjoying social and recreational activities;
 - Having suitable accommodation;
 - Feeling safe;
 - Likelihood of discrimination and assault;
 - Influencing local decisions;
 - Freedom of expression;
 - Appreciation of nature;
 - Respecting and valuing people;
 - Friendship and support;
 - Self-determination;
 - Imagination and creativity,
 - Access to interesting activities
- Scoring system is based on **equal weights** of the different domains

Valuation research

- Some capability domains may be more important than others in determining someone's well-being
- Weighting of values may vary
 - between different cultural settings (i.e. regions/countries),
 - main sociodemographic characteristics (i.e. age, gender),
 - different population cohorts influenced by specific insight into or adaptation to an illness.
- Still no consensus on the best method to elicit values, but current practice: Best-Worst Scaling (BWS)
 - ASCOT, ICECAP-A, ICECAP-O, ICECAP-SCM and even Austrian preference weights for the ASCOT
 - BWS elicits values rather than preferences
 - BWS would satisfy Sen's interpretation of the capability approach

Aim of this study

- To determine what relative weights may be assigned to the 16 domains of the German language version of the OxCAP-MH instrument across population cohorts with different levels of mental ill-health experience.
- Objectives:
 - (i) elicit the value weights of the different capability domains of the German OxCAP-MH,
 - (ii) explore their variations across population cohorts with different mental ill-health knowledge approximating the experiences of patients, experts and the general population, and
 - (iii) propose a preliminary value set in an Austrian context for use in cost-effectiveness analyses.

Methods (1)

- Best-Worst Scaling (BWS)
 - Participants are presented with a set of hypothetical scenarios where they had to state their preferences by selecting the most and least important items;
 - Designed by Sawtooth Software.
- Participants: 18-80 years / sufficient intellectual capacities / language skills
 - (1) in- and out-patients of a psychiatric hospital ward;
 - (2) patients from a primary care practice;
 - (3) students of a medical university with insight into mental health problems.
- Sample size based on previous valuation studies (lack of scientific method)
- Convenience sampling
- Paper-based data collection

Exemplary BWS task

Stellen Sie sich bitte vor, Sie müssten zwischen den folgenden sechs Optionen wählen, basierend auf den für Sie persönlich wichtigsten und unwichtigsten Aspekten in Ihrem Leben. Bitte wählen Sie jeweils die wichtigste bzw. unwichtigste Option.

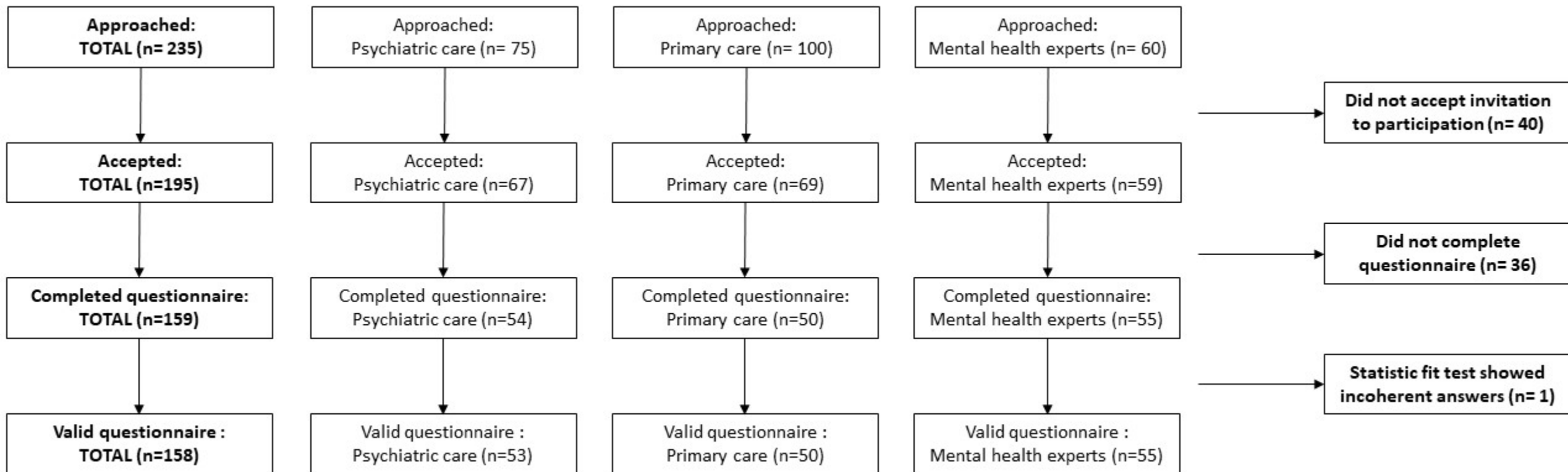
(1 of 16)

| Am Wichtigsten | | Am Unwichtigsten |
|-----------------------|--|-----------------------|
| <input type="radio"/> | Mein Gesundheitszustand, verglichen mit gleichaltrigen Menschen, schränkt mich in meinen Alltagsaktivitäten in keinster Weise ein. | <input type="radio"/> |
| <input type="radio"/> | Ich werde nicht angegriffen (einschließlich sexueller und häuslicher Gewalt). | <input type="radio"/> |
| <input type="radio"/> | Ich kann Entscheidungen beeinflussen, die sich auf mein Wohnggebiet auswirken. | <input type="radio"/> |
| <input type="radio"/> | Ich kann Pflanzen, Tiere und die Natur würdigen und wertschätzen. | <input type="radio"/> |
| <input type="radio"/> | Ich habe Zugang zu interessanten Aktivitäten (oder Erwerbstätigkeit). | <input type="radio"/> |
| <input type="radio"/> | Ich kann meiner Fantasie freien Lauf lassen und mich kreativ ausdrücken (z.B. durch Kunst, Literatur, Musik, usw.). | <input type="radio"/> |

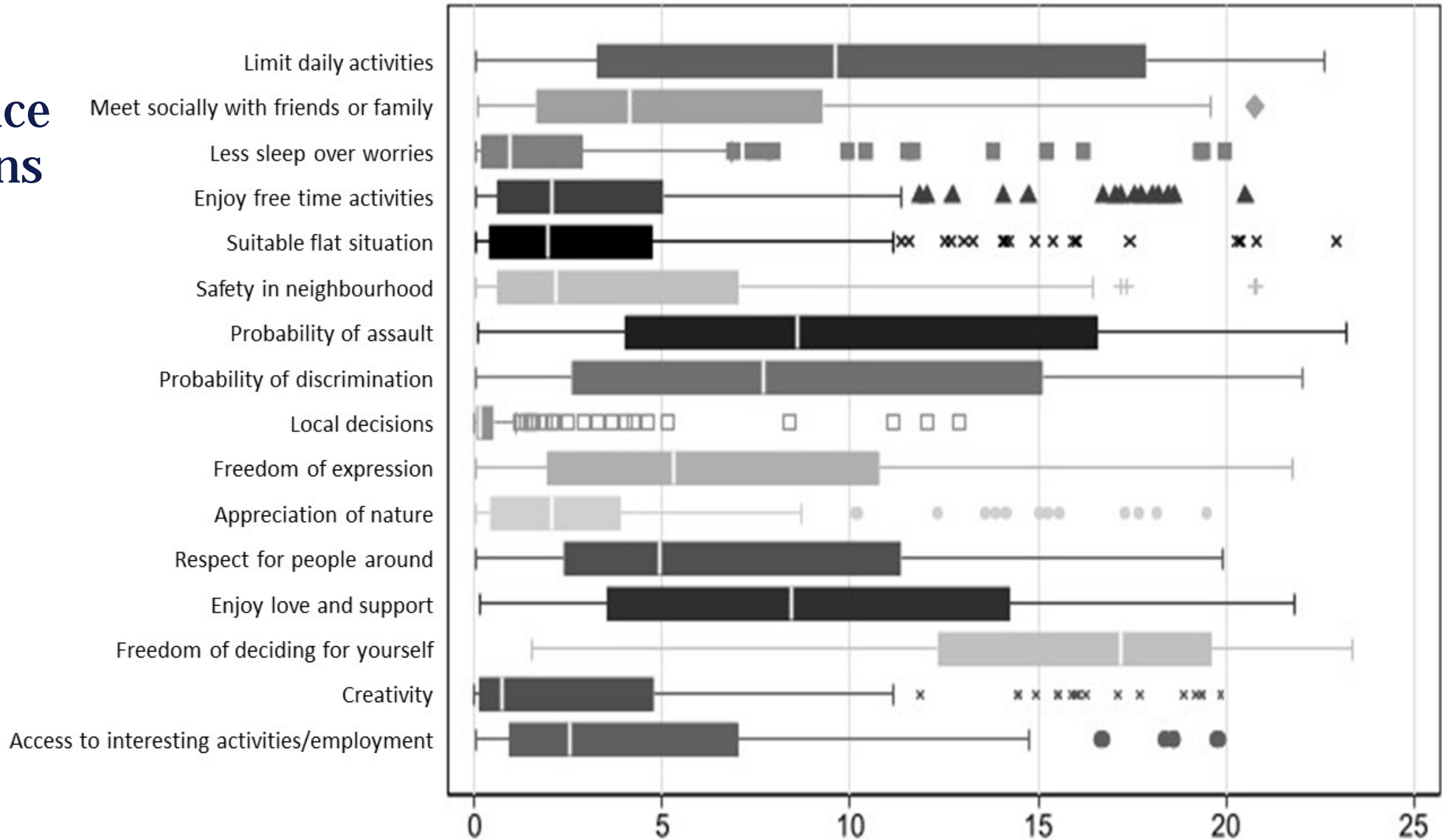
Methods (2)

- Weights for the domains calculated by Hierarchical Bayes (HB) estimation
 - calculation is based on individual respondents and enables segmentation by population cohorts
 - can yield reliable individual best-worst values even when the number of responses per participant is small
 - mean relative importance score (RIS) was calculated for each domain based on HB estimation
 - ‘individual fit statistic’ per respondent below 0.17 was used to identify inconsistent responders
- Rank order analysis based on HB estimation was repeated for population cohorts, testing the differences across groups by Kruskal-Wallis equality of populations rank tests
- Pearson correlation coefficients between the RIS scores of the domains for the full population cohort were calculated and visualised by means of a heatmap
- Multivariable linear regression analyses to explore the relative adjusted importance of the domains across population cohorts
 - Robust standard errors to account for violations of model assumptions and the implicit correlation of the outcome variables were obtained using the Jackknife method

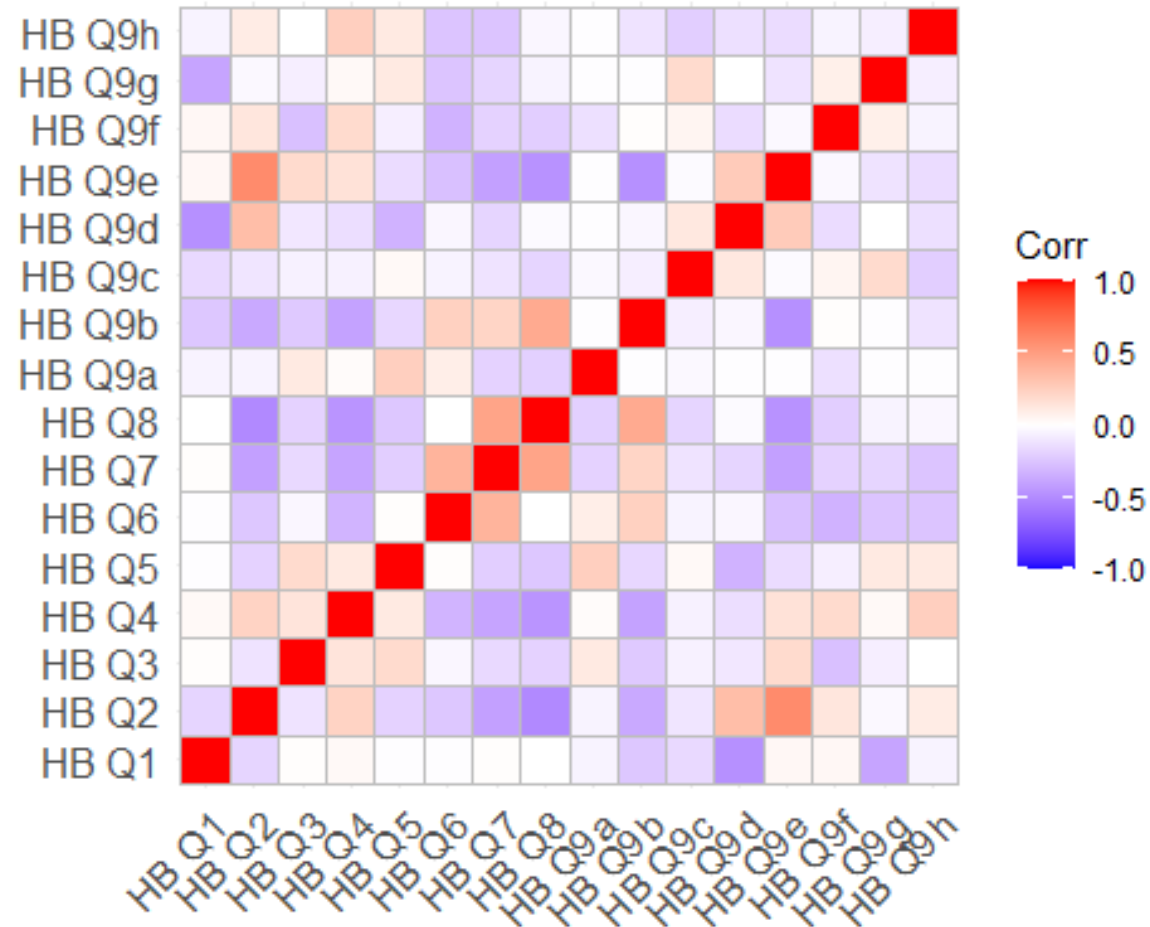
Overview of recruitment strategy and inclusion of participants



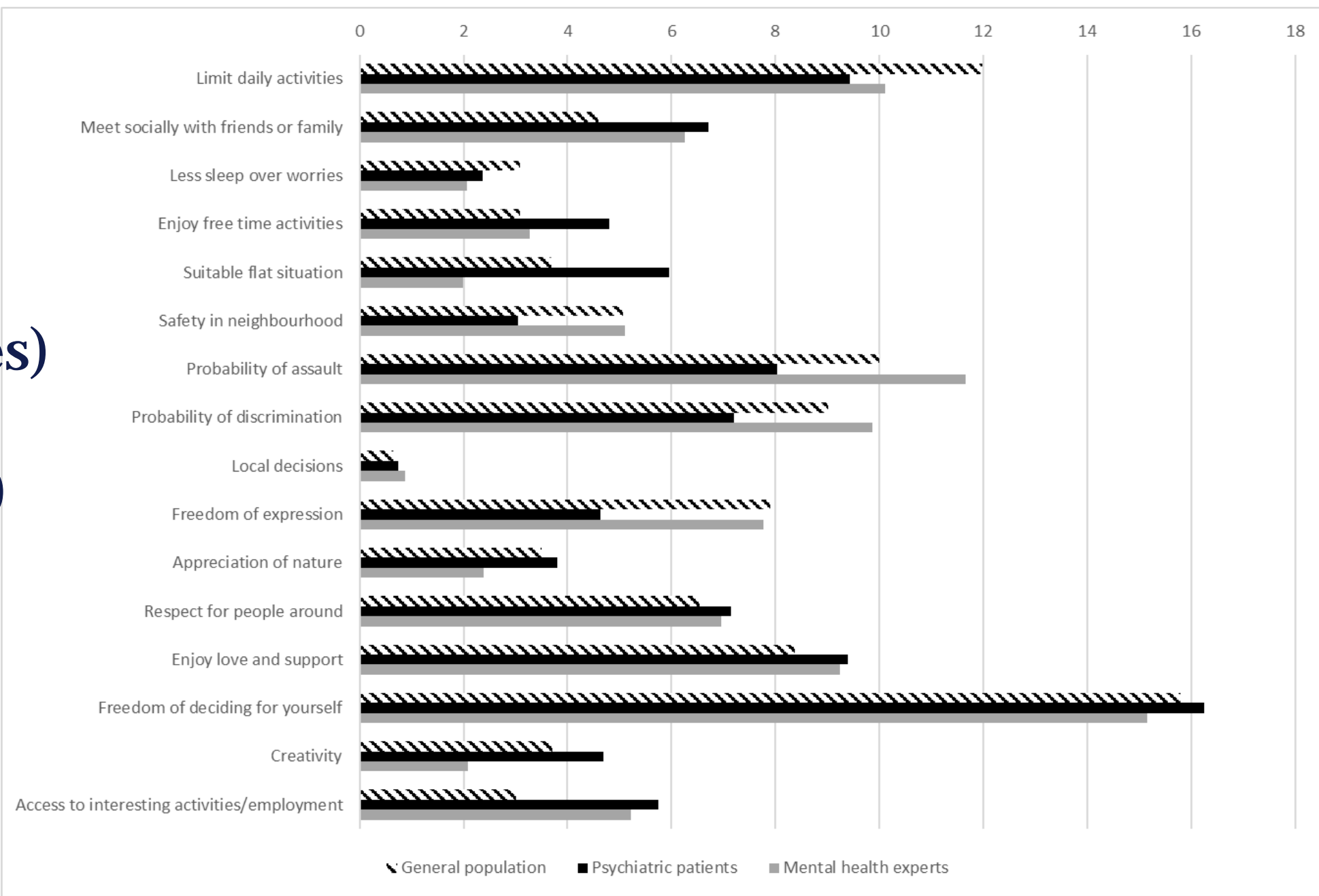
Relative importance of domains



Heatmap of pairwise Pearson correlation coefficients between OxCAP-MH domains



Mean Relative Importance Scores (Hierarchical Bayes estimates) by population cohort (n=158)



Multivariate regression analysis per domain with robust standard errors (n=158)

| Domain | Question Number | Label | Mean (SD) | Male vs female | Psychiatric patients vs general population | Mental health experts vs. general population | Constant |
|--------|-----------------|---|--------------|----------------|--|--|--------------|
| 1 | 1 | Limit daily activities | 10.48 (7.43) | 0.97 (4.71) | -2.58 (3.97) | -1.97 (1.75) | 11.64 (1.35) |
| 2 | 2 | Meet socially with friends or family | 5.89(5.14) | 0.21 (1.99) | 2.12 (1.82) | 1.65 (1.05) | 4.52 (0.82) |
| 3 | 3 | Less sleep over worries | 2.48 (3.84) | 0.68 (3.45) | -0.74 (1.22) | -1.08 (1.56) | 2.83 (2.30) |
| 4 | 4 | Enjoy free time activities | 3.73 (4.78) | 1.50 (4.58) | 1.67 (1.47) | 0.04 (0.98) | 2.55 (2.39) |
| 5 | 5 | Suitable flat situation | 3.85(5.04) | 1.39 (3.11) | 2.23 (2.11) | -1.83 (0.80)* | 3.18 (1.96) |
| 6 | 6 | Safety in neighbourhood | 4.41(4.97) | -1.35 (4.48) | -1.98 (1.35) | 0.16 (1.78) | 5.56 (1.91) |
| 7 | 7 | Probability of assault | 9.92(6.71) | -2.52 (4.77) | -1.87 (3.34) | 1.91 (1.44) | 10.90 (3.25) |
| 8 | 8 | Probability of discrimination | 8.71(6.65) | -0.11 (1.44) | -1.80 (3.52) | 0.86 (1.63) | 9.06 (1.93) |
| 9 | 9a | Local decisions | 0.76 (1.92) | 0.10 (0.98) | 0.11 (0.33) | 0.23 (0.46) | 0.60 (0.42) |
| 10 | 9b | Freedom of expression | 6.76(5.75) | -0.28 (1.31) | -3.25 (1.60)* | -0.11 (1.36) | 8.00 (1.27) |
| 11 | 9c | Appreciation of nature | 3.22(4.13) | -0.87 (2.24) | 0.33 (1.19) | -1.04 (1.57) | 3.82 (1.35) |
| 12 | 9d | Respect for people around | 6.89(5.58) | -0.37 (2.58) | 0.62 (2.12) | 0.44 (1.95) | 6.67 (1.57) |
| 13 | 9e | Enjoy love and support | 9.02 (6.10) | -1.04 (1.99) | 1.05 (3.03) | 0.95 (1.37) | 8.76 (1.19) |
| 14 | 9f | Freedom of deciding for yourself | 15.72 (4.74) | 0.01 (0.99) | 0.45 (1.17) | -0.65 (1.27) | 15.80 (0.97) |
| 15 | 9g | Creativity | 3.47 (5.34) | 1.37 (2.08) | 0.93 (2.84) | -1.75 (1.09) | 3.21 (1.83) |
| 16 | 9h | Access to interesting activities/employment | 4.70(5.03) | 0.32 (1.07) | 2.72 (1.39) | 2.19 (2.00) | 2.90 (0.99) |

Indicative value weights of the OxCAP-MH domains and their levels

| Domain Number | Question Number | Label | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|---------------|-----------------|---|---------|---------|---------|---------|---------|
| 1 | 1 | Limit daily activities | 0.0000 | 0.0262 | 0.0524 | 0.0786 | 0.1048 |
| 2 | 2* | Meet socially with friends or family | 0.0589 | 0.0442 | 0.0294 | 0.0147 | 0.0000 |
| 3 | 3 | Less sleep over worries | 0.0000 | 0.0062 | 0.0124 | 0.0186 | 0.0248 |
| 4 | 4* | Enjoy free time activities | 0.0373 | 0.0280 | 0.0187 | 0.0093 | 0.0000 |
| 5 | 5 | Suitable flat situation | 0.0000 | 0.0096 | 0.0192 | 0.0289 | 0.0385 |
| 6 | 6* | Safety in neighbourhood | 0.0441 | 0.0330 | 0.0220 | 0.0110 | 0.0000 |
| 7 | 7 | Probability of assault | 0.0000 | 0.0248 | 0.0496 | 0.0744 | 0.0992 |
| 8 | 8 | Probability of discrimination | 0.0000 | 0.0218 | 0.0435 | 0.0653 | 0.0871 |
| 9 | 9a* | Local decisions | 0.0076 | 0.0057 | 0.0038 | 0.0019 | 0.0000 |
| 10 | 9b* | Freedom of expression | 0.0676 | 0.0507 | 0.0338 | 0.0169 | 0.0000 |
| 11 | 9c* | Appreciation of nature | 0.0322 | 0.0241 | 0.0161 | 0.0080 | 0.0000 |
| 12 | 9d* | Respect for people around | 0.0689 | 0.0517 | 0.0344 | 0.0172 | 0.0000 |
| 13 | 9e* | Enjoy love and support | 0.0902 | 0.0677 | 0.0451 | 0.0226 | 0.0000 |
| 14 | 9f* | Freedom of deciding for yourself | 0.1572 | 0.1179 | 0.0786 | 0.0393 | 0.0000 |
| 15 | 9g* | Creativity | 0.0347 | 0.0260 | 0.0174 | 0.0087 | 0.0000 |
| 16 | 9h* | Access to interesting activities/employment | 0.0470 | 0.0352 | 0.0235 | 0.0117 | 0.0000 |

Discussion / Conclusion

- Gender and mental ill-health experience have little impact on how people value OxCAP-MH domains
 - > value weights for mental health specific capability instruments could be elicited from alternative population cohorts
- Limitations:
 - relatively small sample size
 - sample may not be fully representative of the Austrian population
 - research focused only on the domains but not the domain levels of the OxCAP-MH
- The availability of this indicative value set will hopefully further facilitate the use of the OxCAP-MH in mental health economic evaluations conducted in German speaking countries and international research
- Robust study methods are generalisable beyond the current context and should form the basis for any further value set development for the OxCAP-MH in other countries / other capability instruments



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