



# Cross-Cultural Insights from Two Global Mental Health Studies: Self-Enhancement and Ingroup Biases

Yasuhiro Kotera · Amy Ronaldson · Daniel Hayes · Holly Hunter-Brown · Merly McPhilbin · Danielle Dunnett, et al. *[full author details at the end of the article]*

Accepted: 19 April 2024  
© The Author(s) 2024

## Abstract

This commentary highlights two cross-cultural issues identified from our global mental health (GMH) research, RECOLLECT (Recovery Colleges Characterisation and Testing) 2: self-enhancement and ingroup biases. Self-enhancement is a tendency to maintain and express unrealistically positive self-views. Ingroup biases are differences in one's evaluation of others belonging to the same social group. These biases are discussed in the context of GMH research using self-report measures across cultures. GMH, a field evolving since its Lancet series introduction in 2007, aims to advance mental health equity and human rights. Despite a 16.5-fold increase in annual GMH studies from 2007 to 2016, cross-cultural understanding remains underdeveloped. We discuss the impact of individualism versus collectivism on self-enhancement and ingroup biases. GMH research using concepts, outcomes, and methods aligned with individualism may give advantages to people and services oriented to individualism. GMH research needs to address these biases arising from cross-cultural differences to achieve its aim.

**Keywords** Self-enhancement · Ingroup bias · Cross-culture · Global mental health · Individualism · Collectivism

## Purpose

The purpose of this cross-cultural commentary is to discuss two issues identified from our 28 country studies of Recovery Colleges (RCs), RECOLLECT (Recovery Colleges Characterisation and Testing) 2 (Hayes et al., 2023; Kotera et al., 2024b): self-enhancement and ingroup biases. RCs are mental health support communities that offer mental health education and skill development to people with mental health symptoms, carers, and staff. RCs are operated by various types of services and organisations such as primary and secondary care services, non-governmental organisations and education providers. In our studies, RC managers in 28 countries evaluated their own RCs whether their RC operation met key operational components. We found associations between cultural characteristics and the fidelity of RC operation (Hayes et al., 2023; Kotera et al., 2024b). These associations suggested that there might have been cultural advantages for the fidelity of some RCs and highlighted cross-cultural challenges in global mental health (GMH) research. Our

---

Claire Henderson and Mike Slade are co-last authors.

cross-cultural perspectives below can help improve GMH research such as service evaluation across different cultures.

## Increasing Importance of GMH

The term ‘GMH’ has attracted worldwide attention since 2007 when the Lancet published a series using this term, recognising GMH as one distinctive field in health (Prince et al., 2007). Though the standardised definition is yet to be established (Vian et al., 2021), in general, GMH places mental health equity and human rights at its core and targets promotion of mental health, wellbeing, and treatment for people around the world using transdisciplinary approaches (Bass et al., 2023). Four conceptual domains of GMH are research, LMICs, implementation, and landscape (Vian et al., 2021). Cross-cultural understanding relates to all of the four domains (Vian et al., 2021). Following the Lancet 2007 series, many world-leading research organisations and funding programmes in western high-income countries have focused on GMH. Research organisations such as King’s College London and Harvard University have developed their own training programmes and textbooks about GMH. Funding programmes for GMH have been established including the Grand Challenges in Canada (CAD \$42 million investment 2014–2017) and in the USA (USD \$2 million in 2013) and the Medical Research Council call in the UK (GBP £15 million 2018–2023) (Misra et al., 2019). Misra et al.’s (2019) systematic review reported the number of GMH articles published has substantially increased from 12 in 2007 to 114 in 2016: an almost 10-fold increase in this 10-year span. When filtering for empirical studies, the number of published articles increased 16.5-fold in the same period (2 in 2007 to 33 in 2016) (Misra et al., 2019). Misra et al.’s review also noted the unstandardised definition of GMH; however, these rapid increases illustrate the strong recognition of GMH. The importance of GMH research is expected to increase considering the contemporary issues and events around the world such as the COVID-19 pandemic, the United Nations Sustainable Development Goals, human rights promotion, and climate emergency (Moitra et al., 2023). Despite the emphases, cross-cultural understanding in GMH research remains under-developed. ‘Culture’ was not regarded as a distinctive demographic item in Misra et al.’s review; nonetheless, cross-cultural differences in mental health have been widely reported (Misra et al., 2021; Naveed et al., 2020). The majority of GMH studies, 79.61%, did not report the ‘ethnicity’ of the samples, and an even higher percentage, 89.32%, did not report ‘religion’.

## RECOLLECT 2

In RECOLLECT 2, we identified associations between cultural characteristics and the fidelity of RC operation, after controlling for GDP percentage spent on healthcare and Gini coefficient (Kotera et al., 2024a). One hundred and seventy-four RCs across 28 countries participated. The results revealed that countries characterised as individualistic, indulgent, and uncertainty accepting (e.g. the UK, Ireland, Norway) scored higher on self-reported fidelity assessments than the other countries (e.g. Japan, and other countries that were blinded due to high identifiability: one or two RCs participated) (Hayes et al., 2023). Individualistic culture refers to a culture that places a value on individual needs rather than group needs as is the case in collectivistic culture. Indulgent culture means relatively high acceptance of free gratification of natural human desires to enjoy life, as opposed to self-restraint culture that values impulse control. Uncertainty accepting culture means that people in the society are

more accepting of uncertainty as opposed to feeling threatened by uncertainty, which is present in uncertainty avoidant culture (Hofstede et al., 2010). These terms were used in relatively: countries such as the UK, Ireland, and Norway are relatively individualistic, indulgent, and uncertainty-accepting among the 28 countries in our research. RC fidelity was assessed using a manager-rated self-report measure, the RECOLLECT Fidelity Measure (Toney et al., 2018). It is a standardised measure based on 12 key components of RC operation, developed from literature review (13 publications); RC manager interviews ( $n=10$ ); reviews by four expert groups ( $n=77$  in total); and another round of interviews with RC students, trainers, and managers ( $n=44$ ). Using this measure, a high-fidelity score means that the RC operates in alignment with the 12 key RC components. Key components are what were regarded as important to RC operation by the people and literature above, which strongly represented England and other western countries (McGregor et al., 2015; Toney et al., 2018).

## Self-Enhancement

Self-report measures can be susceptible to response biases (Kotera et al., 2020). When a self-report measure is used globally, researchers need to be aware of cross-cultural response biases (e.g. social desirability, extreme response). One notable type of such biases is self-enhancement. Self-enhancement is a tendency to maintain and express unrealistically positive self-views (Dufner et al., 2019). We highlight self-enhancement bias in this commentary, because this bias is particularly relevant to the individualism-collectivism dimension (Dufner et al., 2019). Despite the recent findings in commonalities of emotional expressions across cultures (Cai et al., 2016; Cowen et al., 2021), when responding to a self-report measure, people oriented to individualistic culture tend to demonstrate stronger self-enhancement than those to collectivistic culture (Heine & Hamamura, 2007). For example, European-American students (individualism) rated their self-esteem significantly higher than Chinese students (collectivism). These students also undertook an EEG test, where European-American students demonstrated significantly faster response to positive words to describe themselves than negative words, whereas Chinese did not (Hampton & Varnum, 2018). A Malaysia-UK study identified that UK students (individualism) demonstrated significantly more positive view to themselves than Malaysian students (collectivism) in all 12 various mental health outcomes (Kotera et al., 2021). A meta-analysis of cross-cultural studies on self-enhancement (91 comparisons) revealed that people oriented to individualistic culture showed a notable self-enhancement bias ( $d=0.87$ ), whereas people oriented to collectivistic culture did not ( $d = -0.01$ ) (Heine & Hamamura, 2007). However, currently no established, feasible solution exists to counter this bias in GMH.

## Ingroup Biases

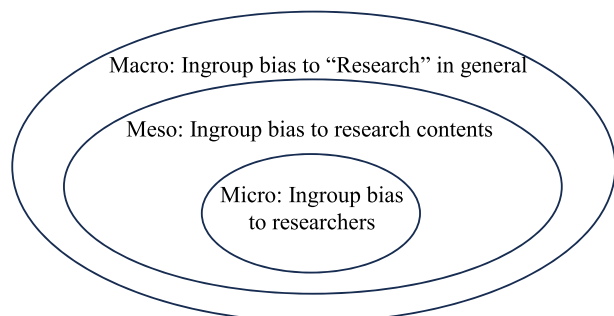
Ingroup biases can be categorised into two types. Ingroup favouritism is our inclination to regard people in our social group (ingroup) more positively than those in other groups (outgroups). Ingroup derogation is our inclination to regard ingroup more negatively than outgroups. Ingroup favouritism is more emphasised in individualistic culture, whereas ingroup derogation is more emphasised in collectivistic culture (Ma-Kellams et al., 2011). Currently, the research field is dominated by the Western, educated, industrialised, rich, and democratic (WEIRD) countries, which account for only 12% of the global population (Henrich et al., 2010). WEIRD countries share a cultural characteristic of individualism relative to non-WEIRD countries. Many mental

health interventions including RC are developed and evaluated in WEIRD countries. In our study, three levels of ingroup biases might have existed: micro-, meso-, and macro-levels. On the micro-level, participants might have experienced ingroup biases to the researchers, many of whom were from WEIRD countries (e.g. ‘they are similar/different to us’). On the meso-level, participants might have experienced ingroup biases to the research contents. For example, RCs originated in WEIRD countries. Words to explain RCs such as ‘coproduction’, ‘individual learning’, or ‘self-management’ may sound more familiar to people in WEIRD countries (Kotera et al., 2024a). On the macro-level, participants might have experienced ingroup biases to “research” in general. WEIRD countries dominate research; therefore, people in WEIRD countries might have felt taking part in research as an ingroup activity, whereas people in non-WEIRD countries might have felt it as a more foreign activity (outgroup). Figure 1 illustrates the three levels of ingroup biases that participants might have experienced in our research.

## Implications for Future GMH Research

The distinction such as ‘individualism versus collectivism’ is one arbitrary general categorisation based on a cultural characteristic. There are several other established cultural characteristics (e.g. tight vs. loose (Gelfand et al., 2006)), and finer categorisations (e.g. different cultural groups within one country; different types of individualism, i.e. horizontal versus vertical (Singelis et al., 1995)). Moreover, within the same category, the degrees can differ (e.g. Japanese culture is labelled as collectivistic in the West, but it is considered to be rather individualistic in Asia). These suggest that there is substantial work to be done to address biases arising from relative cross-cultural differences in GMH research. To address these cross-cultural biases, several strategies have been implemented. Cultural adaptation of measurement tools is one of them, aiming to establish functional equivalence with the original version (Kotera et al., 2023). Cultural adaptation has been active in domains such as autism screening tools (Soto et al., 2014). There are established guidelines for achieving linguistic and cultural equivalence considering the process of adaptation (Beaton et al., 2000; Charles et al., 2022). For example, words used may need to be simplified, examples given may need fit the local culture, or additional descriptions such as ‘this is about your opinion’ may be needed to ensure that the participants think about their own opinion (Charles et al., 2022). Another strategy is cross-validation. Cross-validation allows for estimating how a model would perform on other samples (i.e. different cultural groups). Cross-validation provides a more precise assessment of the model’s ability to predict accurately on unseen data compared to traditional model fit measures (de Rooij & Weeda, 2020). A cross-validation study among the Netherlands, Italy, and China about maternal mental health during

**Fig. 1** Three levels of ingroup biases in participants



the COVID-19 found common factors associated with maternal mental health in the three countries, as well as the unique best models in each country (Guo et al., 2021). Additionally, metrics of response biases informed by cultural characteristics can be used in quantitative analyses (e.g. cross-cultural differences of social desirability bias) (Teh et al., 2023). If an aim of a GMH study is to compare self-reported scores, researchers can use the cross-cultural response bias metrics to remove the cultural impact. Artificial intelligence (AI) may help address biases derived from cross-cultural differences, as it can discern relatively internal cues such as facial expressions, contrasting with more external indicators such as behaviours. Notably, a neuroscience study found that self-enhancement differences occur externally rather than internally (Cai et al., 2016). People oriented to individualism chose more positive words as self-descriptive (i.e. they believed positive words describe themselves) than people oriented to collectivism did (external), while the reaction time to those words was similar between the two groups (internal). An AI study used a computational approach called ‘deep neural networks’ (DNNs) to analyse 6 million YouTube videos from 144 countries. They found that facial expressions of 16 emotions at ‘common social contexts’ were similar across cultures (e.g. awe at fireworks, contentment at weddings, doubt at protests) (Cowen et al., 2021). Taking part in research was not considered a common social context; therefore, it was not evaluated in this study. Application of AI approaches such as DNNs into research contexts may help address these biases.

## Conclusion

GMH research has developed rapidly, yet its cross-cultural understanding remains under-developed. Unaddressed cross-cultural biases can lead to results that give advantages to a certain cultural group, compromising the accuracy of GMH research findings. Our GMH studies highlighted self-enhancement and ingroup biases in self-reporting between collectivism and individualism. Self-enhancement bias might have been present in participants from individualistic culture relative to those from collectivistic culture. The three levels of ingroup biases might have existed and impacted differently between individualism and collectivism. Strategies such as cultural adaptation of measurement tools and cross-validation were discussed. Moreover, cultural metrics and AI were suggested to reduce the biases. Cross-cultural understanding can help GMH research achieve its foundational aim to protect mental health equity and human rights.

**Acknowledgements** We express our appreciation to Professor Gert Jan Hofstede for his helpful advice. We would like to thank Nigel Henderson who helped facilitate the completion of RC surveys in Scotland. We thank the RECOLLECT Lived Experience Advisory Panel (LEAP) who provided input into the design of the survey and interpretation of results. MS acknowledges the support of NIHR Nottingham Biomedical Research Centre. IB is supported by the National Institute for Health and Care Research (NIHR) Biomedical Research Centre at South London and Maudsley NHS Foundation Trust and King’s College London and by the NIHR Applied Research Collaboration South London (NIHR ARC South London) at King’s College Hospital NHS Foundation Trust.

**Author Contribution** YK drafted the paper; all other authors critically revised the manuscript and provided written feedback. All authors approved the final version of the article.

**Data Availability** Not applicable.

**Code Availability** Not applicable.

## Declarations

**Ethics Approval** Not required for this work.

**Consent to Participate** Not applicable.

**Consent for Publication** Not applicable.

**Competing Interests** The authors declare no competing interests.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

## References

- Bass, J., Chibanda, D., Petersen, I., Winkler, P., Sijbrandij, M., & Shidhaye, R. (2023). Introducing Cambridge prisms: Global mental health. *Global Mental Health*, *10*, e7.
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measure. *Spine (Phila Pa 1976)*, *25*(24), 3186–3191. <https://doi.org/10.1097/00007632-200012150-00014>
- Cai, H., Wu, L., Shi, Y., Gu, R., & Sedikides, C. (2016). Self-enhancement among westerners and easterners: A cultural neuroscience approach. *Social Cognitive and Affective Neuroscience*, *11*(10), 1569–1569. <https://doi.org/10.1093/SCAN/NSW072>.
- Charles, A., Korde, P., Newby, C., Grayzman, A., Hiltensperger, R., Mahlke, C., Moran, G., Nakku, J., Niwemuhwezi, J., Nixdorf, R., Paul, E., Puschner, B., Ramesh, M., Ryan, G. K., Shamba, D., Kalha, J., & Slade, M. (2022). Proportionate translation of study materials and measures in a multinational global health trial: Methodology development and implementation. *British Medical Journal Open*, *12*(1), e058083. <https://doi.org/10.1136/bmjopen-2021-058083>.
- Cowen, A. S., Keltner, D., Schroff, F., Jou, B., Adam, H., & Prasad, G. (2021). Sixteen facial expressions occur in similar contexts worldwide. *Nature*, *589*(7841), 251–257. <https://doi.org/10.1038/s41586-020-3037-7>
- de Rooij, M., & Weeda, W. (2020). Cross-validation: A method every psychologist should know. *Advances in Methods and Practices in Psychological Science*, *3*(2), 248–263. <https://doi.org/10.1177/2515245919898466>
- Dufner, M., Gebauer, J. E., Sedikides, C., & Denissen, J. J. A. (2019). Self-enhancement and psychological adjustment: A meta-analytic review. *Personality and Social Psychology Review*, *23*(1), 48–72. <https://doi.org/10.1177/1088868318756467>
- Gelfand, M. J., Nishii, L. H., & Raver, J. L. (2006). On the nature and importance of cultural tightness-looseness. *Journal of Applied Psychology*, *91*, 1225–1244. <https://doi.org/10.1037/0021-9010.91.6.1225>.
- Guo, J., De Carli, P., Lodder, P., Bakermans-Kranenburg, M. J., & Riem, M. M. E. (2021). Maternal mental health during the COVID-19 lockdown in China, Italy, and the Netherlands: A cross-validation study. *Psychological Medicine*, 1–11. <https://doi.org/10.1017/s0033291720005504>
- Hampton, R. S., & Varnum, M. E. W. (2018). Do cultures vary in self-enhancement? ERP, behavioral, and self-report evidence. *Social Neuroscience*, *13*(5), 566–578. <https://doi.org/10.1080/17470919.2017.1361471>
- Hayes, D., Hunter-Brown, H., Camacho, E., McPhilbin, M., Elliott, R. A., Ronaldson, A., ..., & Jebra, T. (2023). Organisational and student characteristics, fidelity, funding models, and unit costs of recovery colleges in 28 countries: A cross-sectional survey. *The Lancet Psychiatry*, *10*(10), 768–779. [https://doi.org/10.1016/S2215-0366\(23\)00229-8](https://doi.org/10.1016/S2215-0366(23)00229-8)
- Heine, S. J., & Hamamura, T. (2007). In search of East Asian self-enhancement. *Personality and Social Psychology Review*, *11*(1), 4–27. <https://doi.org/10.1177/1088868306294587>
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behav Brain Sci*, *33*(2–3), 61–83. <https://doi.org/10.1017/s0140525x0999152x>
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind* (3rd ed.). McGraw-Hill Education.

- Kotera, Y., Van Laethem, M., & Ohshima, R. (2020). Cross-cultural comparison of mental health between Japanese and Dutch workers: Relationships with mental health shame, self-compassion, work engagement and motivation. *Cross Cultural and Strategic Management*, 27(3), 511–530. <https://doi.org/10.1108/CCSM-02-2020-0055>.
- Kotera, Y., Ting, S. H., & Neary, S. (2021). Mental health of Malaysian university students: UK comparison, and relationship between negative mental health attitudes, self-compassion, and resilience. *Higher Education*, 81(2), 403–419.
- Kotera, Y., Asano, K., Jones, J., Colman, R., Taylor, E., Aledeh, M., Barnes, K., Golbourn, L. M., & Kishimoto, K. (2023). The development of the Japanese version of the full and short form of Attitudes Towards Mental Health Problems Scale (J-(S) ATMHPS). *Mental Health, Religion & Culture*. <https://doi.org/10.1080/13674676.2023.2230908>
- Kotera, Y., Miyamoto, Y., Vilar-Lluch, S., Aizawa, I., Reilly, O., Miwa, A., Murakami, M., Stergiopoulos, V., Kroon, H., Giles, K., Garner, K., Ronaldson, A., McPhilbin, M., Jebara, T., Takhi, S., Repper, J., Meddings, S., Jepps, J., Simpson, A. J., Kellerman, V., Arakawa, N., Henderson, C., Slade, M., & Eguichi, S. (2024a). Cross-cultural comparison of Recovery College implementation between Japan and England: Corpus-based discourse analysis. *Preprint*. <https://doi.org/10.13140/RG.2.2.32919.59044>.
- Kotera, Y., Ronaldson, A., Hayes, D., Hunter-Brown, H., McPhilbin, M., Dunnett, D., Jebara, T., Takhi, S., Masuda, T., Camacho, E., Bakolis, I., Repper, J., Meddings, S., Stergiopoulos, V., Brophy, L., De Ruyscher, C., Okoliyski, M., Kubinová, P., Eplov, L., Toernes, C., Narusson, D., Tinland, A., Puschner, B., Hiltensperger, R., Lucchi, F., Miyamoto, Y., Castelein, S., Borg, M., Meng, T. G., Sornchai, R., Tiengtom, C., Farkas, K., Moreland, M., Moore, H., Butler, E., Mpango, A., Tse, R., Kondor, S., Ryan, Z., Zuaboni, M., Elton, G., Grant-Rowles, D., McNaughton, J., Hanlon, R., Harcla, C., Vanderplassen, C., Arbour, W., Silverstone, S., Bejerholm, D., Ling, U., Ochoa, C., Garcia-Franco, S., Tolonen, M., Yeo, J., Charles, C., Henderson, A., C., & Slade, M. (2024b). How culture impacts recovery intervention: 28-country global study on associations between cultural characteristics and Recovery College fidelity. *Preprint*. <https://doi.org/10.13140/RG.2.2.34787.36648>.
- Ma-Kellams, C., Spencer-Rodgers, J., & Peng, K. (2011). I am against us? Unpacking cultural differences in ingroup favoritism via dialecticism. *Personality and Social Psychology Bulletin*, 37(1), 15–27. <https://doi.org/10.1177/0146167210388193>
- McGregor, J., Brophy, L., Hardy, D., Hoban, D., Meddings, S., Repper, J., Rinaldi, M., Roeg, W., Shepherd, G., Slade, M., Smelson, D., Stergiopoulos, V., & RCICoP Group. (2015). Proceedings of June 2015 meeting. Recovery colleges international community of practice (RCICoP).
- Misra, S., Stevenson, A., Haroz, E. E., de Menil, V., & Koenen, K. C. (2019). Global mental health: Systematic review of the term and its implicit priorities. *British Journal of Psychiatry Open*, 5(3), e47. <https://doi.org/10.1192/bjo.2019.39>
- Misra, S., Jackson, V. W., Chong, J., Choe, K., Tay, C., Wong, J., & Yang, L. H. (2021). Systematic review of cultural aspects of stigma and mental illness among racial and ethnic minority groups in the United States: Implications for interventions. *American Journal of Community Psychology*, 68(3–4), 486–512. <https://doi.org/10.1002/ajcp.12516>
- Moitra, M., Owens, S., Hailemariam, M., Wilson, K. S., Mensa-Kwao, A., Gonesse, G., Kamamia, C. K., White, B., Young, D. M., & Collins, P. Y. (2023). Global mental health: Where we are and where we are going. *Current Psychiatry Reports*, 25(7), 301–311. <https://doi.org/10.1007/s11920-023-01426-8>
- Naveed, S., Waqas, A., Chaudhary, A. M. D., Kumar, S., Abbas, N., Amin, R., Jamil, N., & Saleem, S. (2020). 2020-September-02). Prevalence of common mental disorders in South Asia: A systematic review and meta-regression analysis [systematic review]. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsy.2020.573150>.
- Prince, M., Patel, V., Saxena, S., Maj, M., Maselko, J., Phillips, M. R., & Rahman, A. (2007). No health without mental health. *Lancet*, 370(9590), 859–877. [https://doi.org/10.1016/s0140-6736\(07\)61238-0](https://doi.org/10.1016/s0140-6736(07)61238-0)
- Singelis, T. M., Triandis, H. C., Bhawuk, D. P. S., & Gelfand, M. J. (1995). Horizontal and vertical dimensions of individualism and collectivism: A theoretical and measurement refinement. *Cross-Cultural Research*, 29(3), 240–275. <https://doi.org/10.1177/106939719502900302>
- Soto, S., Linas, K., Jacobstein, D., Biel, M., Migdal, T., & Anthony, B. J. (2014). A review of cultural adaptations of screening tools for autism spectrum disorders. *Autism*, 19(6), 646–661. <https://doi.org/10.1177/1362361314541012>
- Teh, W. L., Abdin, E., Siva Kumar, P. V. A., Roystonn, F. D., Wang, K., Shafie, P., Chang, S., Jeyagurunathan, S., Vaingankar, A., Sum, J. A., Lee, C. F., van Dam, E. S., & Subramaniam, M. (2023). Measuring social desirability bias in a multi-ethnic cohort sample: Its relationship with self-reported physical activity, dietary habits, and factor structure. *Bmc Public Health*, 23(1), 415. <https://doi.org/10.1186/s12889-023-15309-3>



- Toney, R., Knight, J., Hamill, K., Taylor, A., Henderson, C., Crowther, A., Meddings, S., Barbic, S., Jennings, H., Pollock, K., Bates, P., Repper, J., & Slade, M. (2018). Development and evaluation of a recovery college fidelity measure. *The Canadian Journal of Psychiatry*, 64(6), 405–414. <https://doi.org/10.1177/0706743718815893>
- Vian, R., Erin, B., Sana, Z. S., Mimi, S., Victoria Jane, B., & Stefan, P. (2021). Understanding global mental health: A conceptual review. *BMJ Global Health*, 6(3), e004631. <https://doi.org/10.1136/bmjgh-2020-004631>.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

## Authors and Affiliations

Yasuhiro Kotera<sup>1,2</sup>  · Amy Ronaldson<sup>3</sup> · Daniel Hayes<sup>3,4</sup> · Holly Hunter-Brown<sup>3</sup> · Merly McPhilbin<sup>1</sup> · Danielle Dunnett<sup>3</sup> · Tesnime Jebara<sup>3</sup> · Simran Takhi<sup>1</sup> · Takahiko Masuda<sup>5</sup> · Elizabeth Camacho<sup>6</sup> · Ioannis Bakolis<sup>7</sup> · Julie Repper<sup>8</sup> · Sara Meddings<sup>8</sup> · Vicky Stergiopoulos<sup>9</sup> · Lisa Brophy<sup>10</sup> · Clara De Ruyscher<sup>11</sup> · Michail Okoliyski<sup>12</sup> · Petra Kubinová<sup>13</sup> · Lene Eplov<sup>14</sup> · Charlotte Toernes<sup>14</sup> · Dagmar Narusson<sup>15</sup> · Aurélie Tinland<sup>16</sup> · Bernd Puschner<sup>17</sup> · Ramona Hiltensperger<sup>17</sup> · Fabio Lucchi<sup>18</sup> · Yuki Miyamoto<sup>19</sup> · Stynke Castelein<sup>20</sup> · Marit Borg<sup>21</sup> · Trude Gøril Klevan<sup>21</sup> · Roger Tan Boon Meng<sup>22</sup> · Chatdanai Sornchai<sup>23</sup> · Kruawon Tiengtom<sup>24</sup> · Marianne Farkas<sup>25</sup> · Hannah Moreland Jones<sup>26</sup> · Edith Moore<sup>27</sup> · Ann Butler<sup>28</sup> · Richard Mpango<sup>29</sup> · Samson Tse<sup>30</sup> · Zsuzsa Kondor<sup>31</sup> · Michael Ryan<sup>32</sup> · Gianfranco Zuaboni<sup>33</sup> · Dan Elton<sup>34</sup> · Jason Grant-Rowles<sup>34</sup> · Rebecca McNaughton<sup>34</sup> · Claire Harcla<sup>35</sup> · Wouter Vanderplasschen<sup>36</sup> · Simone Arbour<sup>37</sup> · Denise Silverstone<sup>38</sup> · Ulrika Bejerholm<sup>39,40</sup> · Candice Powell<sup>41</sup> · Susana Ochoa<sup>42</sup> · Mar Garcia-Franco<sup>42</sup> · Jonna Tolonen<sup>43</sup> · Caroline Yeo<sup>44</sup> · Ashleigh Charles<sup>1</sup> · Jessica Jepps<sup>3</sup> · Adelabu Simpson<sup>3</sup> · Vanessa Kellermann<sup>3</sup> · Olamide Todowede<sup>1</sup> · Laura Asher<sup>45</sup> · Michio Murakami<sup>2</sup> · Liza Hopkins<sup>46</sup> · Ngurzoi Jahau<sup>46</sup> · Naoko Arakawa<sup>47</sup> · Elisabetta Scanferla<sup>48</sup> · Claire Henderson<sup>3</sup> · Mike Slade<sup>1,49</sup>

✉ Yasuhiro Kotera  
Yasuhiro.Kotera@nottingham.ac.uk

<sup>1</sup> School of Health Sciences, Institute of Mental Health, University of Nottingham, Nottingham, Nottinghamshire NG7 2TU, UK

<sup>2</sup> Center for Infectious Disease Education and Research, Osaka University, Osaka, Suita 565-0871, Japan

<sup>3</sup> Health Service and Population Research Department, Institute of Psychiatry, Psychology and Neuroscience, King's College London, De Crespigny Park, London SE5 8AF, UK

<sup>4</sup> Research Department of Behavioural Science and Health, Institute of Epidemiology & Health Care, University College London, Torrington Place, London WC1E 7HB, UK

<sup>5</sup> Department of Psychology, University of Alberta, P-355, Biological Sciences, Edmonton, AB T6G 2E9, Canada

<sup>6</sup> School of Health Sciences, Faculty of Biology, Medicine & Health, The University of Manchester, Oxford Road, Manchester M13 9PL, UK

<sup>7</sup> Department of Biostatistics and Health Informatics, Institute of Psychiatry, Psychology and Neuroscience, King's College London, De Crespigny Park, London SE5 8AF, UK



- 8 ImROC, Nottinghamshire Healthcare NHS Foundation Trust, Duncan Macmillan House, Porchester Road, Mapperley, Nottingham NG3 6AA, UK
- 9 Department of Psychiatry, University of Toronto, Toronto, ON M5T 1R8, Canada
- 10 School of Allied Health, Human Services and Sport, College of Science, Health and Engineering, La Trobe University, Melbourne, VIC 110091, Australia
- 11 Department of Special Needs Education, Ghent University, Henri Dunantlaan 2, Ghent 9000, Belgium
- 12 WHO Country Office in Bulgaria, World Health Organization, 15, Ivan Geshov Blvd, Sofia 1431, Bulgaria
- 13 Centre for Mental Health Care Development, Lublaňská 1730/21, 120 00 Praha 2, Prague, Czech Republic
- 14 CORE: Copenhagen Research Center for Mental Health, Mental Health Centre Copenhagen, Kobenhavn, Denmark
- 15 Institute of Social Studies, University of Tartu, Lossi 36, Tartu, Estonia
- 16 Department of Psychiatry, Marseille Public Hospital, 147 Boulevard Baille, Marseille F-13005, France
- 17 Department of Psychiatry II , Ulm University, Ludwig-Heilmeyer-Str. 2, Günzburg 89312, Germany
- 18 Department of Mental Health and Addiction Services, Ausl Bologna, Italy
- 19 Department of Psychiatric Nursing, Graduate School of Medicine, The University of Tokyo, Bunkyo-ku, Tokyo 1130033, Japan
- 20 Department of Clinical Psychology and Experimental Psychopathology, Faculty of Behavioural and Social Sciences, Lentis Psychiatric Institute, Lentis Research, University of Groningen, Groningen, The Netherlands
- 21 Department of Health, Social and Welfare Studies, University of South-Eastern Norway, Postboks 235, Kongsberg 3603, Norway
- 22 Medical Social Work Department, Institute of Mental Health, 10 Buangkok View, Hougang 539747, Singapore
- 23 Department of Mental Health, Excellence Center Srithanya Hospital, 47 Talat Kwan, Mueang Nonthaburi District, 11000 Nonthaburi, Thailand
- 24 Living Association, 341 Bond Street, Bang Phut, Pak Kred, 11120 Nonthaburi, Thailand
- 25 Center for Psychiatric Rehabilitation, Boston University, 02215 West Boston, MA, USA
- 26 Cardiff and Vale Recovery & Wellbeing College, Park Lodge, Whitchurch, CF14 7BL Cardiff, UK
- 27 Drive Direction, 8C Lambie Drive, 2241 Manukau, New Zealand
- 28 Public Health Agency, Towerhill, Armagh, Northern Ireland BT61 9DR, UK
- 29 School of Health Sciences, Soroti University, P. O. Box 211, Soroti, Uganda
- 30 Department of Social Work and Social Administration, The University of Hong Kong, Pokfulam Road, Pokfulam, Hong Kong
- 31 Special Education Faculty, Institute of Disability and Social Participation, Eötvös Loránd University, Ecséri Street 3, Budapest 1097, Hungary
- 32 Community Health Organisation, Health Service Executive (HSE), Dublin, Ireland
- 33 Recovery College Berne, University Hospital of Psychiatry and Psychotherapy, University Berne Psychiatric Services, Bolligenstrasse 60, 3000 Berne, Switzerland
- 34 RECOLLECT Lived Experience Advisory Panel, London, UK
- 35 Discovery College, Headspace Early Psychosis, Alfred Mental and Addiction Health, South East Melbourne, Melbourne, Australia

- <sup>36</sup> Recovery & Addiction cluster, Department of Special Needs Education, Ghent University, H. Dunantlaan 2, B-9000 Gent, Belgium
- <sup>37</sup> Ontario Shores Centre for Mental Health Sciences, 700 Gordon Street, L1N 5S9 Whitby, ON, Canada
- <sup>38</sup> Canadian Mental Health Association (National), M5T 2Z5 Toronto, ON, Canada
- <sup>39</sup> Department of Health Sciences, Lund University, SE-221 00 Lund, Sweden
- <sup>40</sup> Department of Research and Development, Division of Psychiatry, Region Skåne, Lund, Sweden
- <sup>41</sup> Mind HK, Unit B, 18/F One Capital Place 18 Luard Road, Wan Chai, Hong Kong
- <sup>42</sup> Sant Boi de Llobregat. MERITT Group, Parc Sanitari Sant Joan de Déu, Institut de Recerca Sant Joan de Déu. CIBERSAM, ISCIII, Barcelona, Spain
- <sup>43</sup> Unit of Population Health, University of Oulu, P.O.BOX 8000, Oulu FI-90014, Finland
- <sup>44</sup> Faculty of Engineering, University of Nottingham, Nottingham NG7 2RD, UK
- <sup>45</sup> Nottingham Centre for Public Health and Epidemiology, School of Medicine, University of Nottingham, NG7 2UH Nottingham, UK
- <sup>46</sup> Alfred Mental and Addiction Health, 3004 Melbourne, VIC, Australia
- <sup>47</sup> Division of Pharmacy Practice and Policy, School of Pharmacy, University of Nottingham, Nottingham NG7 2RD, UK
- <sup>48</sup> GHU Paris Psychiatrie et Neurosciences, Hôpital Sainte-Anne, 1, rue Cabanis, Paris, France
- <sup>49</sup> Faculty of Nursing and Health Sciences, Health and Community Participation Division, Nord University, Postbox 474, Namsos 7801, Norway