



Correction to: Psychometric Validation of the Bangla Fear of COVID-19 Scale: Confirmatory Factor Analysis and Rasch Analysis

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While carrying out some pooled analyses on various datasets concerning the psychometric properties of the Fear of COVID-19 Scale (FCV-19S; Ahorsu et al. 2020), we found some errors reported in the original publication of the Bangla version (Sakib et al. 2020). These errors do not materially change any of the main findings reported but we would like the errors to be made public.

The confirmatory factor analysis (CFA) was actually analyzed using lavaan package in R software (Rosseel et al. 2015) rather than MPLUS 8.0 as was previously reported. Also, the estimator was the diagonally weighted least squares (DWLS) instead of the diagonally weighted least squares (WLSMV). The DWLS is recommended to be a good estimator that

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Table 1 Psychometric properties of the FCV-19S in item level

Item #	Factor loading ^a	DIF contrast across gender ^{c,d}	DIF contrast across age
FCV19S1	0.680	0.10	−0.12
FCV19S2	0.625	0.17	.00
FCV19S3	0.746	−0.08	0.00
FCV19S4	0.765	−0.06	0.16
FCV19S5	0.698	−0.08	0.10
FCV19S6	0.703	−0.06	−0.28
FCV19S7	0.667	0.05	0.15

^a Based on confirmatory factor analysis

^c DIF contrast > 0.5 indicates substantial DIF

^d DIF contrast across gender = difficulty for females–difficulty for males

^e DIF contrast across age categories = difficulty for participants with older age (i.e., ≥ 26.53 years)–difficulty for participants with younger age (i.e., < 26.53 years)

MnSq, mean square error; *DIF*, differential item functioning

takes the consideration of the ordinal nature of the data (i.e., 5-point Likert scale). The results indicated that the single-factor structure of the Bangla FCV-19S fitted well with the data (chi-square = 368.327, *df* = 14, comparative fit index = 0.990, Tucker–Lewis index = 0.985, root mean square of error approximation = 0.054, and standardized root mean square residual = 0.047). Factor loadings were ranged from 0.67 to 0.77 (Table 1). The average variance extracted (AVE) and composite reliability (CR) were then corrected as follows: AVE value was marginal (AVE = 0.49) and CR value was above the acceptable threshold level (CR = 0.87).

We would also like it to be noted there were 12 individuals (0.14%) identified as third gender. We had omitted them in Rasch analysis to make easier comparisons across subgroups. Therefore, Rasch analysis was performed on 8538 individuals. We thus corrected the differential item functioning (DIF) across age and gender.

The original paper also erroneously reported a test-retest reliability coefficient but no test-retest was carried out on this particular dataset. The dataset is available at: https://osf.io/3b4xz/?view_only=9d22a1e56b9c47488e688d14bb50f16c

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in this study involving human participants were in accordance with the ethical standards of University’s Research Ethics Board and with the 1975 Helsinki Declaration.

Informed Consent Informed consent was obtained from all participants.

References

Ahorsu, D. K., Imani, V., Lin, C. Y., Timpka, T., Broström, A., Updegraff, J. A., Årestedt, K., Griffiths, M. D., & Pakpour, A. H. (2020). Associations between fear of COVID-19, mental health, and preventive

- behaviours across pregnant women and husbands: An actor-partner interdependence modelling. *International Journal of Mental Health and Addiction*. <https://doi.org/10.1007/s11469-020-00340-x>.
- Rossee, Y., Oberski, D., Byrnes, J., Vanbrabant, L., Savalei, V., Merkle, E., ... & Barendse, M. (2015). *Package "lavaan": Latent variable analysis*. R Package. Available online at: <http://lavaan.org>.
- Sakib, N., Bhuiyan, A. I., Hossain, S., Al Mamun, F., Hosen, I., Abdullah, A. H., ... & Mamun, M. A. (2020). Psychometric validation of the Bangla Fear of COVID-19 Scale: Confirmatory factor analysis and Rasch analysis. *International Journal of Mental Health and Addiction*. Advance online publication. <https://doi.org/10.1007/s11469-020-00289-x>.

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