Updated Data Analysis Plan; version 2.
For the original data analysis plan, please refer to the MRP proposal.

Multiple Imputation (MI; Sinharay et al., 2001) was already applied in the original UK COVID-MH (O'Connor et al., 2020) study to manage the missing data. Statistical analyses were conducted using SPSS (version 28). Participants were classified according to their reported suicidal ideation (outcome variable) as follows: I) suicidal ideation present during the last week); II) suicidal ideation not present during the last week. Demographics were reported by frequency for categorical variables. These categorical demographic variables were gender (female, male), age (under and equal to 30, over 30), and socioeconomic group (high/low).

Univariate binomial logistic regression with odds ratio was used to allow for the comparison of binary outcomes (e.g., presence vs. absence of suicidal ideation) related to the frequency of engagement with physical activity. A set of univariate binomial regressions was used to identify to which extent psychological variables delivered from the IMV model (stress, defeat, entrapment) differentiate between people who report suicidal ideation and people who do not report suicidal ideation. Multilevel binary logistic regression was utilised to enquire whether physical activity was independently associated with suicidal ideation when other psychological factors were controlled for.

Hayes (2013) PROCESS macro for SPSS was used to test whether engagement in physical activity acted as a moderator between defeat and entrapment. Following this, simple slope analyses were conducted to probe at which levels of the variables the moderator has its effect, if any.

References

Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach.* Guilford Press, New York, NY.

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Sinharay, S., Stern, H. S., & Russell, D. (2001). The use of multiple imputation for the analysis of missing data. *Psychological methods, 6*(4), 317.