Response to Reviewer 1

Dear Reviewer 1,

We sincerely appreciate your valuable comments and constructive suggestions, which have greatly helped us improve this study and the manuscript. We have carefully read and addressed all your comments one by one, made detailed revisions and supplementary explanations as required, and the revised contents are marked in red font in the manuscript. Below is our point-by-point response:

Q1. The introduction section briefly mentions psychosocial stress as a potential risk factor for TMDs but fails to adequately refer to the pathophysiological mechanisms linking psychosocial factors to the development and progression of TMDs.

Response to Q1

Thank you for your suggestion. We have supplemented the pathophysiological mechanisms linking psychosocial factors to the occurrence and progression of TMDs (including neuroendocrine mechanisms and immune mechanisms) in Line 86-91 of the main text, with relevant references cited.

Q2. The manuscript states that the sample size was calculated based on an anticipated 50% response rate, 99% confidence interval (CI), 5% margin of error, and a total population of 1,479 students, yielding a required sample size of 918 participants. However, no formula or reference is provided to justify these parameters. Furthermore, the adequacy of the sample size for multivariable logistic regression analysis is unclear. Please provide additional details.

Response to Q2

Thank you for your comment. The specific calculation formula is as follows, and references have been marked in the main text: In total there were 1,479 students in years 1 to 5 at the university who received the invitation to participate in the survey. The sample size was calculated based on a response rate of 50%, confidence interval of 99%, margin of error of 5%, and a total student population of 1,479. The total sample size required for this study was 459. The sample size was multiplied by the predicted design effect of two to account for the use of convenience sampling and an online survey. Hence, the minimum survey sample size was set to 918 (459 x 2) participants (line 129-134).

The adequacy of our sample size for multivariable logistic regression was verified using the EPV rule and model fit testing. First, following the 10 EPV criterion proposed by Peduzzi et al. (1996), our study recorded 608 TMD outcome events and incorporated 7 independent variables into the multivariable model, yielding an EPV of 86.9—far exceeding the 10:1 threshold, which eliminates the risk of coefficient bias and overfitting. We have also incorporated this section into the statistical analysis (Lines 192 – 194). We appreciate your valuable suggestions, which have

enhanced the rigor of this manuscript.

Furthermore, we have performed the Hosmer-Lemeshow test which showed good model fit (P>0.05) (Line195-196), which further validates that our sample size (n=1223) is sufficient to support reliable multivariable logistic regression results.

Q3. Table 1 ("Demographic characteristics of included participants") lacks critical information on the distribution of lifestyle factors, which were explicitly measured in the Methods section. Please provide additional information.

Response to Q3

Thank you very much for your comment. This will make the information presentation of our manuscript more rigorous and has been of great help. We have supplemented the specific information on the distribution of lifestyle factors in Table 1.

Q4. Table 3 ("Risk factors of TMDs in medical and dental students") presents inconsistent statistical reporting for lifestyle variables: Sleep duration, study time, and walking time are stratified and analyzed without subgroup analysis. Please provide clarification or additional data as needed.

Response to Q4

Thank you for your comment. We have supplemented the subgroup analysis data of sleep duration and study time in Table 3. Both walking time and exercise time showed no statistical significance in the univariate regression analysis, so no further statistical analysis was performed.

Q5. The study relies entirely on self-reported TMD symptoms without clinical examination or imaging verification. Subjective reports may overestimate the true prevalence of TMDs. Please explore this limitation in the Discussion section.

Response to Q5

Thank you for this important comment. We agree that relying on self-reported symptoms without standardized clinical examination and imaging confirmation may overestimate the true prevalence of clinically diagnosed TMDs. In the revised manuscript, we have substantially expanded the Discussion—Limitations section to clarify that our outcome reflects self-reported TMD symptoms assessed via the DC/TMD symptom questionnaire rather than a formal DC/TMD diagnosis, which requires clinical examination (and imaging when indicated). We also explicitly discuss potential sources of overestimation and misclassification (e.g., joint noises in asymptomatic individuals and headache with non-TMD etiologies), and we outline future directions using a two-stage design (questionnaire screening followed by calibrated clinical examination and imaging in a subsample) and longitudinal validation. In addition, we revised wording throughout the Abstract/Results/Conclusions to consistently report "prevalence of

self-reported TMD symptoms" rather than clinically verified TMD prevalence (line 54,220,250,369-370,480).

We again thank you for your rigorous review and professional suggestions. We hope the revised manuscript meets the requirements of the journal and look forward to your further feedback.

Sincerely,
The Authors