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# Enhancing Adherence to Health Behaviors Research: Reflections on Current Methods and Future Directions [Response to Letter]

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## Dear editor

We appreciate the editor for allowing us to respond to the comments from Zhongqiu Tang. We also thank Zhongqiu Tang for his interest in our study, Mediating Effect of Perceived Health Competence on the Association Between Mindfulness and Adherence to Health Behaviors in Patients with Acute Coronary Syndrome: A Cross-Sectional Study.[1] His insightful comments offer an excellent opportunity to clarify and expand upon the points they raised.

We used Spearman's rank correlation analysis to preliminary explore the possible relationship between mindfulness and perceived health competence and adherence to health behaviors. Once the relationship was verified, we further constructed a multiple linear regression model to control for the confounding factors[2] to accurately assess the associations between mindfulness and perceived health competence and patients' adherence to health behaviors. By controlling for the confounding factors, the independent impacts of mindfulness and perceived health competence on adherence to health behaviors were examined.

The aim of our study was not to compare the magnitude of the effects of mindfulness and perceived health competence on adherence to health behaviors, but rather aimed to explore the mechanisms by which each of them influences adherence to health behaviors. Therefore, our main concern in the analyses was to control for confounding variables to ensure the accuracy and reliability of the test of the hypothesis that both mindfulness and perceived health competence are independent influencing factors of adherence to health behaviors and we did not delve into the changes in the effects of the independent variables after controlling for mediating variables. Although this analytical step could have provided stronger evidence for mediating effects, we believe that controlling for confounding variables was sufficient to reveal the effects of mindfulness and perceived health competence within the framework of this study. This choice allowed us to maintain the clarity and focus of the study and avoid unnecessary complexity, thus providing a clear direction for subsequent research. We are also aware of the importance of transparency of data and interpretability of results and will consider more comprehensive analytical approaches in future studies.

We strongly agree with you that subgroup analyses are indeed crucial in understanding the effects of variables in different populations.[3] In the present study, we focused primarily on the overall relationship between mindfulness and perceived health competence and adherence to health behaviors, without analyzing subgroups such as age and gender in depth. This choice was based on our desire to keep the study focused and concise, but we recognize that the characteristics of different subgroups may significantly influence the associations between variables. In future studies, we will consider expanding sample size and incorporating subgroup analyses to more fully explore the impacts of mindfulness and perceived health competence on health behavior adherence. This will provide a richer perspective for our research and more targeted recommendations for practice in related fields. Thank you for suggesting this important improvement.

In summary, we appreciate the opportunity to address these crucial points to enhance our work's clarity and impact.

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## Disclosure

The authors declare that they have no financial or non-financial competing interests in this communication.

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