Author's response to reviews

Title: Mental Illness in Metropolitan, Urban and Rural Georgia Populations

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Author's response to reviews: see over
Please find our responses to the reviewers’ comments itemized below. Changes were made in bold font in the current version of the manuscript. Thank you for your positive response to our manuscript.

**Reviewer #1:**
1. While initially the research question appears well-defined, it is at times unclear whether the key question of interest relates to mental illness across geographical areas, or to mental illness in people with CFS-like symptoms. The relevance of functional somatic symptoms is initially referred to only briefly in the introduction, yet is a key part of the study design and sampling strategy (discretionary revision)

   Reply: We thank the reviewer for pointing out this confusion. The key question for this paper is to investigate the prevalence of psychiatric disorders across geographic areas. We have clarified this confusion in the current version (page 4). The current analysis is a secondary data analysis which uses data from a population-based study which was designed to investigate unwellness and functional somatic symptoms. We have made changes in the study design and sampling strategy descriptions to reflect this secondary analysis and re-weighting strategy.

2. Methods appear appropriate, and for the most part are well described. However, some aspects would benefit from clarification. For example, the section describing the process of weighting the data does not give a clear picture of how the data were weighted, or by which factors.

   Reply: The current version includes brief descriptions of how the sampling weights were generated. The sampling weights were estimated using demographic factors such as age, sex, race, and the patient’s illness status in the source study. See page 5.

3. A substantial amount of data is reported in the results section. The inclusion of 12 tables may be excessive, especially considering that many of these tables are referred to only in passing in the results section, and are not discussed in terms of their relevance to the research question. In several cases it would enhance the overall readability of the manuscript if these results were presented in a more concise form. For example, the information in Tables 7 and 12 may be more clearly communicated by reporting the significant findings in-text, rather than presenting entire (almost identical) tables with very few significant differences between groups. For the data presented in Table 4, the test statistics, not just p-values, should be reported. In the case of results which are not reflected on in the discussion, the authors may like to reconsider whether their inclusion is adding to the overall aims of the paper.

   Reply: We have moved Tables 7-12 to a separate file for the supplement materials. We also added the test statistics to Table 4 per the reviewer’s suggestion.

4. Are the discussion and conclusions well balanced and adequately supported by the data? Yes, the discussion is based on findings from the present analysis, and does not draw conclusions beyond the scope of the data. However, the discussion and conclusions focus only on a subset of the analyses conducted; many of the results are not discussed or elaborated on in any way.

   Reply: We have added more discussions on higher prevalence of PTDS and GAD from our current study and urban-rural difference in mood disorders and anxiety disorders.
Reviewer #2:

This study aimed to investigate the prevalence and correlates of major psychiatric disorders in metropolitan, urban, and rural Georgia populations. The authors found that mood and anxiety disorders, PTSD and GAD in particular, were common, and found socio-demographic differences in their correlates. Strengths of the study were that the sample size was large and the SCID was used as a diagnostic tool. However, I have several suggestions for improvement.

1. One of the major limitations of this study is that the study design was cross-sectional and therefore could not infer causal relationships between the psychiatric diagnoses and socio-demographic variables. This should be described as a limitation.

Reply: We have added this limitation to the current version. See page 9.

2. The authors might want to provide some validity data on the telephone interviews.

Reply: We thank the reviewer for this suggestion regarding the validity of the telephone interviews. Although during the source study’s detailed phone interviews, participants were screened for lifetime diagnosis of psychiatric conditions such as bipolar disorder and schizophrenia, respondents who reported a lifetime diagnosis were not invited to participate in the subsequent one-day clinical evaluation. The prevalence estimates of the psychiatric disorders reported in the paper were based on the SCID, which was administered by certified SCID interviewers in person during the one-day clinical evaluation.

3. The authors should discuss why the prevalence of PTSD and GAD in this sample was higher compared to those from national findings.

Reply: We thank the reviewer for this suggestion. We have added discussion about the higher prevalence estimates of PTSD and GAD among this study sample compared to national estimates from the NCS-R. Additionally, we discuss that these differences could potentially be attributed to differences in study methodology, such as a state-specific sample vs. a national sample, using SCID vs. CIDI as a diagnosis tool for psychiatric disorders, etc.

4. There were wide variations in the prevalence and correlates of psychiatric disorders among the study area (metropolitan vs. urban vs. rural). There have been considerable literatures on the urban-rural differences in these issues. The authors should make a detailed discussion on their findings.

Reply: Although there is large variation in the prevalence estimates of psychiatric disorders across geographic areas (correlate of urbanicity), few studies have looked at this effect in the United States. We have added two references for U.S. studies examining this association and added a brief discussion of the urban-rural differences.