Author’s response to reviews

Title: Validation of the German Version of the Insomnia Severity Index in Adolescents, Young Adults and Adult Workers: Results from Three Cross-Sectional Studies

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Validation of the German Version of the Insomnia Severity Index in Adolescents, Young Adults and Adult Workers: Results from Three Cross-Sectional Studies

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BMC Psychiatry
Dear Prof. Gehrman,

Thank you for the opportunity to submit a revision of the above paper to you, for consideration for publication in BMC Psychiatry. We found the comments of the reviewers to be very helpful and constructive in crafting a revision.

Per your request, we are submitting the document electronically. Below we respond to each point raised by the reviewers, in your letter of March 24, 2016. In the edited manuscript, we have marked all changes in blue and bold. If we can provide any additional information, or make any additional changes, please do not hesitate to let me know.

Sincerely,
On behalf of the authors
Markus Gerber

Reviewer 1

Reviewer #1: This paper validates the German version of the ISI, which has been widely used. The authors present three different studies targeting three different populations. They also factored in gender each and every time and results are quite interesting. Furthermore, they provide empirical evidence for a one-factor model. All tables as well as the figure are explicit and are welcome. The accompanying German ISI is also a great add-on. It is an excellent paper.

Response: Thank you very much for these appreciative comments. We are pleased to know that our manuscript is generally perceived in a positive way.

Although the paper is very statistically oriented (as should be a validation paper) and that authors are reporting accurately the literature, I would recommend a bit more discussion on the use of the ISI or towards which population it should be studied. Also, in the introduction, authors should
always keep in mind that insomnia is a subjective disorder, and this is why we need a short brief questionnaire to assess subjectively the disorder.

Response: Thank you for these valuable comments. We followed your recommendations and have emphasized more explicitly in the introduction that insomnia is a subjective disorder, which is why it is important to have a brief questionnaire that allows for the assessment of sleep complaints subjectively. We have also highlighted that, thanks to the brevity of the instrument, the ISI is a useful screening tool for clinical practice, allows for the assessment of change following treatment, and can be used in epidemiologic studies.

Reviewer 2

Reviewer #2: Gerber et al. investigated the psychometric properties of a German version of the Insomnia Severity Index in three samples. From my point of view, the study is properly conducted and of interest, in particular for German-speaking sleep researchers. I believe that the most important limitation of the manuscript is that a non-standard version of the PSQI (11 items; related to two typical weekdays; 8-point Likert scale) appears to be used as the main validation tool. The description of this PSQI version on page 8, lines 161-169 sounds substantially different from the original PSQI and I am actually somewhat surprised that this is suggested to be a German adaptation of the PSQI. In addition to this, the manuscript may benefit from copyediting by a native speaker.

Response: Thank you for this valuable feedback. We agree with your criticism regarding the German adaptation of the PSQI, which we have used in several previous publications (e.g. Gerber et al., 2010; Kalak et al., 2012). This adaption was taken from a widely used and easy-to-use workbook to treat insomnia (Backhaus J, Riemann D. Schlafstörungen bewältigen [Overcoming insomnia].Heidelberg, PVU, 1996). The adaption allows for a more detailed recording of changes in sleep quantity, and quality, along with further sleep-related dimensions such as mood, sleepiness, and concentration during the day. Collectively, the adaption is well-received both at the scientific and clinical level. In light of this, it is true that the version employed in our studies varies from the original instrument. However, we believe that in these specific circumstances using the adapted version is not an issue in the context of the present
validation study, because the correlations between the ISI and PSQI items are presented on an item level, and because all of the PSQI items are described in detail in the method section.

A native speaker has double-checked the manuscript for grammatical and stylistic correctness.

Backhaus J, Riemann D: Schlafstörungen bewältigen [Coping with sleep disorders]. Weinheim: Beltz Psychologie Verlags Union; 1996.


Some minor issues are outlined below:

1) Introduction: I would prefer the term "daytime performance" over "academic performance".

Response: Thank you for your comment. We have followed your recommendation and now use daytime instead of academic performance.

2) Introduction (page 4, line 40): I think "sleep frequency" is not a very common term. At least I do not understand what is meant, maybe frequency of nocturnal awakenings?

Response: Thank you. We agree with your point of view. We have deleted “frequency”.

3) Introduction: I think that it can be described more clearly why a questionnaire that was "developed by Bastien et al." in 2001 has been used in clinical research and practice for almost 30 years.
Response: Thank you for your comment. We agree that our formulation was confusing. We have changed this part of the manuscript. We now refer to Morin (1993) as the “inventor” of the ISI (as also explained and referred to by Bastien et al. in their 2001 paper). Bastien et al (2001) were the first scientists who systematically analysed the psychometric properties of the ISI.


4) Studies 1-3: Please report a consistent number of decimals for each variable across studies. E.g. for age, one decimal is provided for studies 1 and 2, and 2 decimals are provided for study 3.

Response: Thank you for your thoroughness. We have changed the manuscript and now provide only one decimal for age when we describe the participants of study 3.

5) Study 1, methods: Please describe the covariates that were used in the ANCOVA used for testing gender differences.

Response: Thank you. We apologize for this mistake. We carried out ANOVAs (not ANCOVAs) when testing gender differences. Thus, the analyses were not adjusted for any covariates. We have changed the manuscript accordingly.

6) Study 1: What is the theoretical model/what are the hypothesised factors for the CFA? It is actually described in the results section, so I would like to suggest to provide this information in the methods section and only there.

Response: Thank you. As you suggest, we have moved the information regarding the hypothesized factors for the CFA to the methods section. We now state that we expected all items to load on one factor.
7) Study 1, results: "reported more insomnia symptoms than boys", maybe "reported more severe insomnia symptoms than boys" would be more precise.

Response: Thank you. We have adapted the manuscript according to your recommendation.

8) Tables: What are "*", "**", and "***" representing in the tables? I am quite confident that I can guess it correctly but it may be helpful to describe it in the table legend.

Response: Thank you. We have added the requested information to the notes following the tables: *p<.05, **p<.01, ***p<.001.

9) Study 1, line 211ff. Please mention that this section is about ISI-PSQI correlations, it took me quite a while to understand this.

Response: This is an excellent suggestion. We have highlighted more clearly that this section concerns the ISI-PSQI correlations (also for study 2 and 3).

10) Study 2, line 236: Here, an 8-item German adaptation of the PSQI is mentioned. In study 1, an 11-item version is described. Please clarify.

Response: We apologise for this confusion. As indicated in the Tables, the PSQI consists of 11 items (SOL, number of awakenings, bedtime, waking time, morning sleep quality, morning restoration, morning mood, daytime concentration, daytime sleepiness, evening sleepiness, evening mood). We have adapted the manuscript accordingly.

11) Study 2, line 246: I am somewhat surprised that the participants of study 2 had the same mean and sd values for the ISI scores than the ones of study 1 (two decimals are provided). Please re-check whether this is really just a strange co-incidence.
Response: Thank you for pointing this out. The statistical information in the text was wrong (while it was correct in Table 4). We have corrected this point, and we apologize for such elementary mistakes. The mean is 6.56 and the standard deviation 4.31.

12) Study 2, line 249: In the analysis section of study 1, it is mentioned that an ANCOVA was used for testing gender differences. In the results section of study 2 (the analyses were described to be the same in the two studies), an ANOVA was reported. Please clarify.

Response: Thank you. We have performed ANOVAs, not ANCOVAs. We have adapted the manuscript accordingly.

13) Study 2, line 249-250: Mean ISI values for women and men are not consistent with the overall mean ISI score of 6.67 (223 men, 639 women). I think the overall mean ISI should be 6.57.

Response: Thank you. We failed to report the statistics correctly in the text. The overall ISI mean is 6.56 (SD = 4.31) for study 2. Again, we apologize for this mistake.

14) Study 3: Did the local IRB approve study 3? I actually wonder whether the descriptions of ethics-related issues are purposely different between studies.

Response: Thank you again for your scrutiny. Study 3 was indeed as special case. For study 3, IRB approval was not required because the data assessment was part of a masters thesis. At the time of the data assessment, no IRB approval was required within the Medical Faculty of the University of Basel for masters theses which were based on retrospective survey data as long as the data assessment was performed in line with the ethical principles of the Helsinki declaration (that is to say, that all answers are anonymous, written informed consent is provided, and that only the researchers (but not the employers) have access to the raw data). Because all these requirements were accomplished, no formal IRB approval was needed.