Author's response to reviews

Title: Psychological distress and academic self-perception among international medical students: the role of peer social support

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Version: 3 Date: 9 August 2014

Author's response to reviews: see over
August 9, 2014

Prof. Reidar Tyssen

Associate Editor

BMC Medical Education

Dear Prof. Tyssen

We are pleased to have had the opportunity to revise our article for consideration to BMC Medical Education: “Psychological distress and academic self-perception among international medical students: the role of peer social support”, authored by Yukari Yamada, Miloslav Klugar, Katerina Ivanova, and Ivana Oborna. As indicated in the responses that follow, we have considered all these comments and suggestions carefully and taken into account some of them in the revised version of our paper.

Reviewer #1 (Silvia Florescu):

Comment: Minor essential revisions. 1. As regards the theoretical frame of the paper: I was wondering why were not considered the following the objective assessment of the academic performance (mark at the end of previous year, for those in 1st grade, the mark at admission) characteristics that could explain the stress (the financial arrangements, economical status) characteristics that could express the self esteem (Rosenberg scale) or the personal traits characteristics that could explain the availability of peer social support (lodging in campus or in private settings)

Response: We agree with the points the reviewer raised. Unfortunately none of the above mentioned variables was available for this study. We have added this point as one of limitations of this study.” Lastly, we may have omitted some important variables that could have had an influence on the association of interest in this study, such as financial status and personal trait of each student, Further study is need to investigate the possible influence of these conditions. “(Page 12 Line 10)

Comment: 2. About the measures used, there is a different level of explanations and the explanations can be found either in methods or results/discussion sections. I would propose to make a table with the measurements used, number of items, and range of values, cut off points or threshold values, alteration done on variables, type of analysis. I think this could help the understanding.

Response: We have added an additional table (table 1 in the revised version) to describe the measurements used in this study.

Comment: 3. I expected to find the definition of the psychological distress, peer social support and academic self perception before to be explained the possible correlates, theories, models.

Response: We have added definitions.
Psychological distress; “Psychological distress is seldom defined as a distinct concept and is often embedded in the context of strain, stress and distress. The Medical Student Well-Being Index (MSWBI) [27] has been developed to identify medical students in severe psychological distress and therefore was used in this study with permission from the developers, Mayo Foundation for Medical Education and Research.” (Page 6 Line 2)

Peer social support; “Peer social support is defined as social support from peer students at the given medical school.” (Page 6 Line 18)

Academic self-perception; “Since the questionnaire was anonymous and objective data of academic performance was not available for this study, academic self-perception to indicate students’ perceptions of their academic performance was used as a proxy of academic performance.” (Page 7 Line 13)

Comment: 4. The number of observations is quite small and for some important subgroups extremely low. I expected to find clarifications in contingency tables about the real size of every subgroup (low peer support- academic self perception-psychological distress).

Response: We have added the numbers of observation to figure1.

Comment: 5. The nature of variables used and their distribution deserve at least a short description.

Response: If we understand this comment correctly, we believe the variables used were explained (Page6 -8) and basic statistics were shown in table 1 (Table 2 in the revised version).

Comment: 6. I could not find some aspects about the sampling (considered probabilistic or not, exhaustive or not?), I could not find an explanation for the important non response/non participation rate.

Response: We have added “Distribution of respondents’ country of origin was almost identical with that of all students in the program.” (Page 5 Line14). As described in data collection section (starting Page5 Line8), students were not sampled (all were invited) and the response rate was 65%.

Comment: 7. The section of Conclusions is too short.

Response: BMC medical education states that conclusion “should state clearly the main conclusions of the research and give a clear explanation of their importance and relevance”. We believe that our conclusion meets this criterion.

Comment: 8. The table 1 contains 4 rows with mean and SD (for MSWBI, MSPPD_FRI, MSPPS_FAM, MSPPS_SO and 9 rows with absolute figures and percentages. I found difficult to read this table and I propose a separation either by another lineation (separate columns for n,% and mean, SD) or simply to split in two tables.

Response: To response to the comment, we have improved the table 1 (table2 in the revised version). We have deleted the absolute numbers for categorical variables, which were in fact odds information, and kept parenthesis used only for mean (SD). We hope this helps clear understanding.
Comment: 10. DIFFERENT VALUES OF P VALUE (AT 3RD DECIMAL): Table 1 presented the characteristics of students according to one’s academic self-perception. 43% of participated students were classified to be distressed and there were more distressed students among those who perceived their academic performance to be poor than those who did not (p=0.065). In the table 1, actually that p value is 0.064

Response: This has been corrected (Page 9 Line 13).

Comment: 11 Two DOTS INSTEAD OF one

On the other hand, when one experiences poor academic performance as a stressor, which can result in negative feelings about themselves, emotional support elevating one’s level of self-esteem is assumed to be needed. For both types of social supports, similar others PEER who have experienced, or are experiencing, the same, or similar, situations are presumed to be optimal sources [20].

Response: This has been corrected (Page 4 Line 17).

Comment: 12 AN ADDITIONAL SPACE BEFORE THE COMMA

not (p=0.065). Students with poor academic self-perception had a higher score of MSWBI (p=0.000), rated their local language proficiency to be poor (p=0.018), and had lower score of MSPPS_FRI (p=0.001) and MSPPS_FAM (p=0.006).

Response: This sentence has been modified (Page 9 Line 15).

Comment: THE MATTERS OF DOUBLE/MULTIPLE PARENTHESIS

Among the types of social supports described by Cohen, et.al (i.e. tangible, appraisal, and emotional (self-esteem, belonging) supports), appraisal and emotional support appear to be relevant to medical students experiencing poor academic performance and/or psychological distress.

Response: We have changed the term (and/or) to avoid possible confusions (Page 4 Line 17).

Comment: 14 TYPING errors

- Figure 1 presented the joint association between psychological distress and low peer support on poor academic self-perception, adjusted by local language proficiency and family support.
- Of the In the legend for Ordinate Adjusted odds ratio for poor academic self-perception of the domains of burnout (emotional exhaustion and depersonalisation), depression, stress, fatigue, the MSWBI scores were both dichotomised into the ‘distress’ and ‘not distressed’ using #4 as the

Response: These have been corrected, though the last one is not in the case in the original manuscript.

Comment: 15 OMISSIONS
was 59%). No significant difference was observed in the students characteristics in table 1 between the 138 students and those excluded from the analyses.

SF I think here should be mentioned the characteristics the authors are discussing about.

**Response:** These have been addressed as suggested; “No significant difference was observed in the students characteristics in table 1 (i.e. gender, study year, marital status, language proficiencies, psychological distress, social support and academic self-perception) between the 138 students and those excluded from the analyses” (Page5 Line18).

**Comment:** others. The only variable(s) which was (were) associated with poor academic performance was (were) included as possible confounder(s) in the following analyses.

SF I waited for an enumeration of that/those variables.

**Response:** They were the local language and the social support from family, and were used as covariates in the analyses showed in table2 (table 3 in the revised version) and figure1. Table1 (table2 in the revised version) tells their associations with academic self-perception and there are also footnotes to explain it, but to clarify it further, we have added one sentence in the result section; “Among the possible covariates, local language proficiency and social support from family (MSPSS-FAM) were associated with academic self-perception; thus, they were included in the further multivariate analyses” (page 9 line 10).

**Comment:** Psychological distress was measured using the Medical Student Well Being Index (MSWBI) [27] with permission to use it from the developers.

SF (I waited to be mentioned the developers).

**Response:** It is Mayo Foundation for Medical Education and Research. This was added in the text (Page 6 Line4).

**Comment:** 16 NOT CLEAR ENOUGH

One score decrease in the MSPSS-FRI was associated with a higher OR of 1.1 (95% CI: 1.0-1.2), while one score increase in the MSWBI scale was associated with a higher OR of 1.5 (95% CI: 1.1–1.9) for poor academic self perception.

SF I would prefer a reformulation of the description and then an interpretation of the findings.

**Response:** We have added some to help interpretations (Page9 Line21); “One score decrease in the MSPSS-FRI (i.e. less peer support) was associated with a higher OR of 1.1 (95% CI: 1.0-1.2), while one score increase in the MSWBI scale (i.e. more distress) was associated with a higher OR of 1.5 (95% CI: 1.1–1.9) for poor academic self-perception.”

**Reviewer #2 (Raluca Sfetcu):**

**Comment:** 1. Peer support: is conceptualized inconsistently, at times as a risk and at time as a protective factor; the paper would gain in clarity if the authors would maintain one perspective across the paper (the comment is valid for all sections of the paper).
Response: Peer social support is **protective against** psychological distress as well as can be a **risk factor for** psychological distress when it is poor. They are just different expressions for the same meaning. To response to the reviewers comment, we have checked this issue throughout the paper and confirmed the consistency; when it is used as a risk, it has always “poor” or “low” as an adjective. As we did not include a definition about what is peer support in this study,” Peer social support is defined as social support from peer students at the given medical school” (Page 6 Line 18).

Comment: 2. Academic performance versus academic self-perception; briefly present the reason of selection of the later. References?

Response: Academic self-perception is an operational measure for academic performance in this study. To response to the comment, we have added the explanation in the methods “Since the questionnaire was anonymous and objective data of academic performance was not available for this study, academic self-perception to indicate students’ perceptions of their academic performance was used as a proxy of academic performance.” (Page 7 Line13).

We discussed the limitation caused by this measurement in one of limitations of this study. Further we have added one sentence to it “It was used since objective measures of academic performance were not available in this study”. (Page 12 Line7).

Comment: 3. On page 4 (lines 20-22) it says: “This study therefore evaluated an effect modification of peer social support in the association between psychological distress and poor academic performance.” The formulation can be misleading and should be re-formulated to express more precisely the aim of the paper; also “academic performance” instead of “academic self-perception”? see also the discussion section (page 10, lines 17-21)

Response: Effect modification means a common situation in which an effect measure changes over values of come other variables. The statement mentioned in this comment exactly means the same as the objective of the study in the abstract which is “This study aimed at evaluating the role of peer social support at medical schools in the association between psychological distress and academic self-perception”. Academic self-perception is a proxy of academic performance. We believe that it is appropriate to state that “academic performance” is our interest to measure in the introduction section and to describe how we measured it (as self-perception) in the method section, while “academic self-perception” appeared directly in the abstract due to words limitation.

Comment: 4. In the analysis section it is not easily understandable that “peer support” was transformed in a risk factor from a protective one or the methods used to achieve it;

Response: See the response to commnet1

We wish to express our thanks to the reviewers for their comments and suggestions, which have served to improve the article and clarify the relevance to the issue of the formation of medical student psychological distress and learning environment.
Sincerely

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