Author’s response to reviews

Title: Motives, Experiences and Psychological Strain in Medical Students Engaged in Refugee Care in a Reception Center - A Mixed-Methods Approach

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Manuscript MEED-D-18-00361 "Motives, Experiences and Psychological Strain in Medical Students Engaged in Refugee Care in a Reception Center - A Mixed-Methods Approach"

Dear Dr. Messin,

Thank you very much for your e-Mail dated 13th December 2018. We greatly appreciate the critical and helpful points raised by the two reviewers. Below, you will find detailed responses to all aspects which were mentioned. We have carefully revised the manuscript according to the reviewers’ recommendations and we found that the comments and suggestions were very useful to further improve the manuscript. All changes to the manuscript are explained in detail in this cover letter, including a reference to their location in the revised version of the manuscript. Furthermore, we highlighted all changes in the manuscript with yellow color. We would like to
express our gratitude for giving us the opportunity of submitting a revised version of our manuscript.

Reviewer 1:

Dear Reviewer #1,

Thank you very much for reviewing this manuscript. We thoroughly considered each of your important comments.

Comments:

1) The main suggestion for improvement relates to the description of the mixed methods approach.

The authors correctly identify this study as a mixed methods, but it would be better to fully identify this study as mixed methods by assigning it to one of the recognised mixed methods study designs.

I refer the authors to textbooks by Creswell and Clarke, that describe 6 well defined mixed methods designs. This study under review is likely best placed as a concurrent triangulated design (albeit that there is an element of sequential timing in the design) as this design puts equal weighting on both the qualitative and quantitative strands (as occurs in this paper), with the results being compared and analysed in the results section of the paper, to add further understanding and contextualisation of the findings (again as occurs in this paper).

Thank you for this very important piece of advice. We discussed the recommended literature in detail and inserted a new section according to the classification of Creswell and Clarke (see page 6, line 3-13).

“In the present study, we applied a mixed-methods approach following a concurrent triangulated design in accordance with the classification of mixed-method designs by Creswell and Clarke (Creswell & Clark, 2017; Creswell, Plano Clark, Gutmann, & Hanson, 2003). Thus, we concurrently undertook quantitative and qualitative assessments. Our prospective study comprised qualitative interviews with a pre-post design and psychometric questionnaires for a cross-sectional quantitative descriptive approach. According to the recommendations of Creswell et al. (2003), results were equally weighted and examined for possible convergence (Creswell et al., 2003). By administering a mixed-methods approach, we aimed to generate a diverse and multifaceted perspective on this new learning environment for medical students. Our goal was to examine both the potentially resulting psychological burden and the subjective impressions of the students working with refugees.”
2) I also refer the authors to a paper by O'Cathain who tabulates six descriptors for the good reporting of mixed methods research - see Box 1 page 97 of the reference below. The O'Cathain paper is well cited as a framework for reporting mixed methods studies, and I suggest that you try to align the write up of the results of this paper to meet these standards. In fact many of these standards have already been met in the current write-up and it is a matter of making this more overt and explicit, and citing the O'Cathain reference as the reporting standard used.

Thank you for this relevant comment. We have followed your valuable suggestion and included the six descriptors of O'Cathain (see page 6, lines 9-19) in our manuscript.

“By administering a mixed methods approach we aimed to generate a diverse and multifaceted perspective on this novel work-based learning environment for medical students, examining not only potentially resulting psychological symptoms by means of psychometric questionnaires, but also the subjective impressions of the participants, working with refugees. For this purpose, all 89 medical students of the University of Heidelberg, Germany who volunteered to work in the outpatient clinic of the Medical Treatment Center of the Heidelberg-Kirchheim Refugee Reception Center “Patrick Henry Village” (PHV) (Nikendei et al., 2017) to support the early implementation phase were invited to participate in the study. The various aspects of the present investigation are reported in line with the “Good Reporting of A Mixed Methods Study” (GRAMMS)-Criteria (O'cathain, Murphy, & Nicholl, 2008).”

3) The last major revision is to address the ethical implications of running the course on refugee health as an "obligatory part of the medical curriculum" Discussion page 26, line 12. It is not that I think this is not a good idea, but I think there is a responsibility on the authors to expand on the last sentence of this current paragraph. We now know from your work that some students will experience secondary trauma. Have you, for instance, identified examples of how to successfully address secondary trauma in health care professionals working with refugees or victims of torture? Can these perhaps be utilised in a proactive, pre-emptive way to minimise the incidence of medical students who experience these negative outcomes? At any rate the implications of running a course that we know will cause stress to a certain number of students needs to be further explored and defended in a few additional sentences.

Thank you for this very helpful comment. We agree with you that we need to elaborate on our suggestion to implement an obligatory course for medical students which may be potentially distressing or even traumatizing for some of them. Therefore, we adapted the corresponding section in our manuscript and added some more aspects to specify a) the advantage of conducting obligatory courses in refugee health care and b) different possibilities to prevent distress and secondary traumatization (therefore see page 26, line 22 to page 28, line 2).
“Taken as a whole, the majority of students felt that the assignment in the reception center for refugees broadened their horizons regarding cultural aspects and that they gained a lot of knowledge. Increasingly, the future generation of physicians will be faced with matters of globalization in general and global health in particular. In this regard, it is important that medical students develop an awareness of cultural differences and particularities, and are sensitive towards these aspects (Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999). As people who encounter individuals from diverse cultures in their working environment, doctors and medical students must meet the demands of a progressing “medical globalization”. Apart from being a challenge, these new psychosocial and medical developments also bring the opportunity for medical students to gain knowledge and skills in a working environment that differs from their usual internships. Therefore, we would like to advocate that obligatory theoretical and practical courses will be included in the medical curriculum. In addition, the basic topics from the obligatory classes could be intensified in additional elective seminars. However, the present study showed that some of the medical students are at risk to develop secondary traumatization after working with traumatized refugees. We therefore propose that students attend psychoeducational courses in which they learn about psychological burden and secondary traumatization as potential consequences of their assignment (Herman, 2015) prior to the obligatory courses. These introductory courses were held for the students participating in our study (see INFOBOX). During their placement in a reception center, individuals should receive frequent supervision by trained psychotherapists (Pearlman & Saakvitne, 1995). The aim of this support should be to 1) prevent psychological distress or secondary traumatization and 2) be able to identify students who show signs of distress due to their working assignments. Additionally, students should be offered the opportunity to confidentially reach out to psychotherapists in case of psychological strain. The “caseload” of the students working in the reception center should be balanced and time for self-care activities should be taken into account (Pearlman & Saakvitne, 1995). Additionally, when students attend courses in which they are likely to encounter traumatized individuals, they should be regularly screened for signs of psychological burden.”

4) Abstract - 1. In the abstract both content analysis and thematic analysis are used interchangeably, however although there are many overlaps these are not exactly the same (see Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. Nursing & health sciences. 2013 Sep;15(3):398-405). It would be best to use one term consistently throughout the paper, perhaps content analysis would be best suited to this paper.

Thank you for this suggestion. Accordingly, we now consistently use the term “content analysis” throughout the manuscript (for example see Abstract, page 2, line 19-21).
“Results: The content analysis of the students’ interviews revealed three main categories before the assignment and four main categories subsequently, displaying a broad variety of perspectives.”

5) Background- 1. Please clarify the term "trainer" on page 4 , line 3.

In the context of the study of Griswold (Griswold, 2003), the term “trainer” refers to family physicians, who trained the students in health care provision for refugees. To clarify this issue, we changed the wording (page 4, line 3-5).

“(…) as well as “refugee health nights” in which refugee patients, students and family physicians get together to discuss refugees’ medical needs and clinical encounters (Griswold, 2003”).

6) Background- 2. Can you add a sentence following the last line on page 4, to indicate if early identification of STS or VT results in better outcomes for the sufferer?

Thank you for raising this important point. To our knowledge, there are no studies which analyze the outcome of STS or VT depending on the onset of a therapeutic intervention. Therefore, we can only refer to studies concerning PTSD, which suggest that early intervention leads to a better outcome (see page 4, line 23 to page 5, line 2).

“Consequently, to prevent psychological impairment in terms of STS or VT in health care personnel working with traumatized refugees, the early identification of psychological change and/or symptoms is paramount. Based on investigations with PTSD-Patients, it can be assumed that identifying signs of STS or VT at an early stage and promptly giving therapeutic support can prevent symptoms to increase and will therefore result in a better outcome (Litz, Gray, Bryant, & Adler, 2002).”

7) Methods- 1. Please use the word "explored" as opposed to "assessed" on page 5, line 17.

Thank you for this comment. We changed the corresponding section (see page 5, line 16-21).

“In detail, the study aimed to investigate (1a) medical students’ motives for volunteering to work in a reception center and their experiences in this working environment, and (1b) the students’ learning progress while working in the reception center. We investigated these aspects by conducting semi-structured pre-post interviews with a subgroup. Further, we used psychometric questionnaires to explore (2a) the resulting psychological strain, and (2b) possible protective factors”.
8) Methods- 2. Please clarify what year of students are included in this study, as you compare them to a class of First year norm reference students.

At the time of our assessment, the participants of our study were in different semesters of their medical studies. On average, participants had been studying for 3.35 years (SD: 1.31). Table 2 (page 15, line 18) depicts the sociodemographic characteristics of the medical students.

Table 2: Sociodemographic characteristics of the assessed medical students.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age [years]</td>
<td>23.63 (2.40)</td>
</tr>
<tr>
<td>Gender [female / male]</td>
<td>79% / 21%</td>
</tr>
<tr>
<td>Year of study [years]</td>
<td>3.35 (1.31)</td>
</tr>
<tr>
<td>Number of shifts</td>
<td>4.08 (3.26)</td>
</tr>
</tbody>
</table>

Current treatment (having started prior to assignment)

- Psychotherapeutic: 1.6%
- Psychopharmacological: 1.6%

9) Methods- 3. Can you please briefly describe in a table - or box,

* What the volunteering in the refugee centre consisted of in terms of total hours/ days/ and content of what the student was spending their time on (eg clerking patients etc)?

* What did the assignments entail?

* What did the introductory course consist of?

* How many hours of contact? Learning / Reading material etc

This is a very important point. Therefore, we inserted an “infobox” that briefly explains the contents and general conditions of the internship (see page 8, line 12 with better formatting).
“INFOBOX 1: Structural aspects of the assignment of the medical students at PHV

Before the students started to work at PHV, they attended an approximately two-hour introductory course on the premises of the University Hospital Heidelberg. The students were given the following information:

a) the premises of PHV,
b) organizational procedures,
c) aspects of flight and forced migration,
d) the asylum procedure in Germany,
e) frequent physical disorders of refugees,
f) mental disorders of refugees,
g) intercultural communication.

In addition, all participants received a manual which included detailed instructions on how to use the computer software and listed important contact details. The students entered their names in a digital shift plan according to their wishes and availability. The shifts at PHV were organized from Monday to Friday. Every day, there were three consecutive shifts of 3.25 hours each. The first shift began at 8.30 am and the last shift ended at 6 pm. 2-3 students were assigned to an individual shift.

The students’ tasks mainly included the admission and forwarding of patients; depending on the capacities, the students also assisted in the doctors’ examination rooms and carried out a basic anamnesis or different diagnostic procedures. The students were then given the opportunity to make their own diagnosis (see Table 1). In order to facilitate communication, students were asked to enter unfinished tasks, new or special features into an online logbook.”

10) Methods- 4. Please include in an appendix a copy of the semi-structured interview topic guide, the cross sectional questionnaire and the nine item questionnaire.

Thank you for this point. We have now included a) the questionnaire on sociodemographic data, previous working experience and personal motivation, b) the interview guide for the semi-structured interviews, and c) the nine-item-questionnaire (see “appendix”, tables 6-8). However, the psychometric questionnaires FST, PHQ-9, GAD-7, SF-12, RQ-2 and SOC-29 cannot be included due to copyright restrictions. These questionnaires are very common, well-known, validated questionnaires in psychological research and are all easy to access. In the methods section we give the relevant literature citations.
11) Methods- 5. Please identify how the 18 students who were interviewed were selected for interview.

We adapted our manuscript according to your useful suggestion (see page 6 line 25, page 7 line 2).

“Participant recruitment for the pre-interviews took place before students began working in the center between January and February 2016. All the participants who agreed to a pre-interview were interviewed before their first shift. The cross-sectional questionnaire study was conducted between March and June 2016. Post-interviews were held in June 2016. The inclusion criterion for the post-interviews was a minimum of five assignments in the outpatient clinic of PHV.”

In our critical review of the abstract, we also had to correct the number of participants in the subsample to n = 16 (16 pre-interviews and 13 post-interviews) (see page 2, lines 11-13).

“In this prospective study using a mixed-methods approach, we applied (1) qualitative content analysis of semi-standardized interviews in a pre-post design in a subsample of n= 16 students.”

12) Methods- 6. Please indicate how long the interviews were and where they took place.

We have modified the text accordingly (see page 11, lines 1-7).

“A trained female research assistant (MPJ) conducted individual face-to-face interviews or interviews via phone, following the semi-standardized interview manual. The face-to-face interviews were conducted on the premises of the University of Heidelberg or at PHV. On average, the pre-interviews took 7 minutes and the post-interviews lasted for 20 minutes. Dialogues were audiotaped. The interviewer (MPJ) was supervised by an experienced colleague (CN). Participants received textbooks or coupons for specialist bookstores (value 10 €) as compensation for their participation.”

13) Results- 1. There were no FST norms in the table - was this an oversight?

To date, there are neither values of a population-based representative norm sample for the FST, nor a norm sample of students that could be used for comparison. Therefore, we were not able to include any norm data in the table.
14) Discussion - 1. I think the opening line page 22, line 2, is an overstatement as currently worded, as there have been some previous examples of similar placements with refugees. For example:


Thank you for your important observation. You are absolutely right about the fact that a couple of previous studies have already investigated medical students in the context of health care provision for refugees. However, to our knowledge, there is no study which evaluates medical students working in a reception center. We think that this is a very special working environment due to the fact that it is the first place at which refugees arrive after flight. Furthermore, our approach is different from other studies: We combined the analysis of the students’ learning experience on the one hand, and their potential distress or secondary traumatization on the other hand.

15) Limitations - 1. As in the discussion, point 1 above, please ensure that your claim to be the largest study of its kind is accurate, or else re-word this sentence.

Thank you for this important suggestion. In addition to the points mentioned above, we rewrote this section to clarify this statement (see page 28, lines 18-21).

“Nevertheless, compared to the existing literature, this investigation constitutes the largest study to date of students examined in the context of working in a refugee reception center.”

16) Limitations - 2. Qualitative studies are not” generally susceptible to bias” when the method is understood and they are well conducted, so this sentence should be removed.

We agree with your comment and removed this sentence from the limitations section.

17) Likewise for the qualitative strand of a mixed methods study, of this nature, then I think that you numbers are not too small. In fact the mixed methods approach is a real strength of this study.

Thank you for this important note. We rephrased this passage and now state that we examined a relatively small number of participants (see page 28, line 5-8).
“Several limitations of this study should be mentioned: First, in our study we only examined a relatively small number of participants. Nevertheless, compared to the existing literature, this study is the largest assessment of medical students working in a refugee reception center.”

Reviewer 2:

Dear Reviewer #2,

Thank you very much for reviewing our manuscript. Your suggestions were very helpful and you pointed out important issues.

1) Formatting- The page numbering skips from page 9 to page 40.

Thank you for your advice; we corrected the page numbering throughout the manuscript.

2) The introduction had too much background information to set the ‘scene’ and not enough literature to support the aims of the study. The introduction does not very clearly present the theory supporting the aims of this study. I would like to see the imbalance between background information and the theory to support this study addressed.

Thank you for your helpful observation. One important reason for the imbalance you describe is the fact, that we think that the working environment in a reception center for refugees is a very special setting and has to be explained sufficiently to the reader. Apart from this, we followed your advice and rewrote a section of the introduction. Furthermore, we added further literature to clarify our theory and the aims of the present investigation (see page 5, line 3-16).

“As yet, there is a lack of insight as to how medical students evaluate their learning success when working in a refugee reception center, and whether they experience psychological strain in terms of secondary traumatization. This is of particular importance: On the one hand, the working environment in a reception center gives students the opportunity to gain knowledge about a wide range of different diseases, including psychological disorders and rare tropical infections (Bozorgmehr et al., 2016; Ravensbergen et al., 2016). On the other hand, working in a setting which involves close contact to traumatized individuals can result in psychological distress for the students (Harr & Moore, 2011; Knight, 2010; O'Halloran & O'Halloran, 2001; Zurbriggen, 2011). Such distress may decrease learning achievements (Yehuda, Keefe, Harvey, & Levengood, 1995) and could even become chronic, leading to considerable limitations in mental well-being (Figley, 1995). In order to better understand what this special working environment entails for medical students, we conducted a prospective study using a mixed-methods approach.
Herein, we investigated how medical students experienced their work in an outpatient clinic for refugees, situated in a reception center.”

3) On page 3, line 20 the word "field" is used, it is not clear what field you are referring, could this be clearer?

Thank you for raising this important point. With the term “field”, we refer to the field of “global health in medical undergraduate curricula”. We changed the wording in order to clarify this (page 3, line 19-20).

“The 2010 worldwide survey on global health education in medical undergraduate curricula emphasized the gradual development of the latter (Rowson et al., 2012).”

4) In the study design starting from line 14 - 20 the studies aims are included. These should be included at the end of the introduction.

Thank you for your useful suggestion. We shifted the section in which we describe the studies' aims to the end of the introduction (see page 5, lines 15-21).

“In detail, the study aimed to investigate (1a) medical students’ motives for volunteering and their experiences in a refugee reception center, and (1b) the students’ learning progress through working in the reception center, explored by means of semi-structured pre-post interviews in a subgroup. The study further sought to explore (2a) the resulting psychological strain and (2b) possible protective factors by means of psychometric questionnaires.”

5) Under the heading 'The Refugee Reception Center Patrick Henry Village in Heidelberg-Kirchheim' the content in this section could be summarised. There is a lot of information in this section which is not need to how you conducted the study. For example, line 14 - 17 this does not provide the reader with any relevant information about the study's methods.

Thank you for your important feedback. Following your advice, we have shortened and adapted the corresponding section in our manuscript (see page 7, lines 7-15).

“Germany is an important destination for many refugees arriving in Europe, as reflected by the increasing number of asylum applicants at the Federal Office for Migration and Refugees (Federal Ministry for Migration and Refugees, BAMF). When applying for asylum in PHV, newly arrived refugees have to undergo several processes, including registration and medical examination (Wahedi, Nöst, & Bozorgmehr, 2017). A medical outpatient clinic was set up in the former dental clinic of PHV (Nikendei et al., 2017) and is run by registered physicians in
Heidelberg and physicians from the University Hospital in Heidelberg. Refugees can receive medical care in general medicine, pediatrics, gynecology, tropical medicine, and psychosocial medicine (Manok et al., 2017).“

6) Was the 9-item questionnaire developed for this study piloted at all?

You address a very important aspect. Indeed, the 9-item questionnaire was tested in a small pilot study: Prior to our investigation, six people from our working group (including students) filled in this questionnaire so that we could assess the questionnaire’s comprehensibility and applicability. Our primary aim was to develop a tool with which we could explore in a descriptive way the different experiences that medical students had in a reception center. The questionnaire addresses both the aspect of learning in a new environment and thus gaining more diverse experiences, and the potential psychological distress linked to this working environment.

7) For each of the standardised scales used in this paper the internal reliability or consistency is not reported for any of the subscales.

Thank you for your suggestion. We inserted the values for internal reliability when possible (see page 12, line 10-11).

“Internal consistency of the FST total score is high with Cronbach’s α = 0.94 (Weitkamp, Daniels, & Klasen, 2014).”

Please see page 12, line 21:

“The PHQ-9 has high internal consistency with Cronbach’s α = 0.89 (Kroenke, Spitzer, & Williams, 2001).”

Please see page 13, lines 3-4, for GAD-7:

“Internal consistency is high (Cronbach’s α = 0.89) (Löwe et al., 2008).”

Please see page 13, lines 12-13:

“The SF-12 displays high internal consistency in the two subscales concerning mental and physical wellbeing (Salyers, Bosworth, Swanson, Lamb-Pagone, & Osher, 2000)”
8) There is also no power calculations for the sample size.

Thank you for this observation. For the psychometric, quantitative part of the study, we followed a cross sectional approach which does not require power calculations. For the qualitative part of the investigation, no sample size calculations can be performed. The guiding principle of determining sample sizes for qualitative approaches should be the concept of saturation (Mason, 2010). In our case we reached proper content saturation with \( n = 16 \) pre-interviews and \( n = 13 \) post-interviews.

9) Line 4 - total of 89 medical students, \( n=62 \). It would be good to know the reasons for non-participation.

We absolutely agree with your observation that we have omitted this information. We now included the main reasons that students gave for not wanting to participate in the study (see page 15, line 5-6).

“The total of 89 medical students, \( n= 62 \) students participated in the investigation, corresponding to a response rate of 69.6%. The main reasons given by the students for not participating in the study were 1) lack of time or 2) not wanting to reveal personal information.”

10) In table 2 it is not clear what is meant by 'current treatment' - had this treatment been ongoing or since working in the service centre. I think this should be made clearer.

Thank you for this important remark. Students had received treatment prior to their assignment in the reception center. Therefore, we changed the wording in table 2 (see page 15, line 19):

Table 2: Sociodemographic characteristics of the assessed medical students.

<table>
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<td>Gender [female / male]</td>
<td>79% / 21%</td>
</tr>
<tr>
<td>Year of study [years]</td>
<td>3.35 (1.31)</td>
</tr>
<tr>
<td>Number of shifts</td>
<td>4.08 (3.26)</td>
</tr>
</tbody>
</table>
Current treatment (having started prior to assignment)

- Psychotherapeutic 1.6%
- Psychopharmacological 1.6%

We now also describe this finding within the text (see page 15, lines 13-15):

“At the beginning of the investigation, some of the participants reported that they were currently undergoing psychotherapeutic or psychopharmacological treatment (see table 2).”

11) How do you know the psychological results were due to attachment. There is no pre/post data and no questions were asked about mental health before working in the centre. Therefore I am unsure how you can make this assumption. Would prior mental health issues have been captured in the qualitative data?

Thank you for this relevant comment. When analyzing our results, we found that high scores for the “model of others” in the attachment system correlated with low scores for depressive symptoms in our cross-sectional approach. We do not want to imply that the results from the psychometric questionnaires are due to attachment style. We merely wanted to describe this correlation in our cross-sectional approach. Apart from this, we agree with your observation that there are no pre-post psychometric data. This important issue is mentioned in detail below. By administering semi-quantitative interviews, we did not assess prior mental health disorders. Rather, we recorded experiences of medical students working in a potentially burdening environment.

12) Your discussion makes some statements that I do not feel that you can back up with your results. Your limitation does not address the fact that you asked no mental health questions before entering the Refugee Centre. It is possible that some students may have a pre-existing mental health issue that would have impacted your results. I think a limitation you also need to address is the psychological assessments were only given at one time point. If you are examining the impact on psychological health of working in a refugee centre these measures should have been given before and after working in the centre.

Thank you for this critical and very helpful observation. In our answer, we would like to summarize the points you mention above because we think they are closely related. We cannot rule out that some of the students may have had pre-existing mental health conditions and this is a relevant limitation of our study. Therefore, we discuss this in our limitations section. We
administered psychometric questionnaires, but only after the participants had finished their assignment at PHV. However, scores for symptoms of depression and anxiety disorders were significantly lower than corresponding scores of first year medical students. This could be interpreted in such a way that students do not find work in a reception center very stressful. Furthermore, the FST is a questionnaire that is filled out after a particular experience and the questions only refer to a specific event in the past. We addressed your important remarks in our limitations section (see page 28, lines 10-17).

“Second, psychometric data was only collected after the students had finished their assignments in the reception center. In order to evaluate the actual impact this working environment has on symptoms of depression, anxiety disorders and overall well-being, students would have to be assessed before they start their assignment. However, this restriction does not apply to the measurement of secondary traumatization because the questionnaire (FST) specifically refers to a defined situation in the past. In the case of our study, this situation was the assignment in the reception center.”

13) On page 25, starting line 5 - I feel this sentence contradicts what you are stating in the previous paragraph (p 24 lines 17-20).

Thank you for your important advice. On page 25, lines 18-20, we now state that

“(…) some students showed signs of psychological strain after their assignment. They suffered from depressive feelings and intrusive recollections of the refugees’ depictions of traumatic experiences, even for weeks after the assignment, which can be a sign of secondary traumatization (STS) (Daniels, 2008)”.

This is a qualitative result of our content analysis of the semi-structured interviews. Since no definitive diagnosis can be made based on the qualitative evaluation, we now explicitly refer to the fact that the participants’ descriptions can only be taken as a sign for STS. Further, on page 26, lines 6-7 we state:

“The quantitative analysis revealed that 96.7% of the students did not suffer from secondary traumatic stress (STS).”

This statement is the result of the quantitative assessment. In turn, it shows that 3.2 % of the participants suffer from STS, which is basically in line with our qualitative data. Taken together, our mixed methods approach seems to display a convergence of qualitative and quantitative evidence, which not necessarily has to be taken as a contradiction. To further clarify this point concerning qualitative vs. quantitative results, we changed the wording at the beginning of the section we mentioned above, discussing the results of the content analysis in more detail (page 25, lines 13-14).
“The students experienced their individual encounters with the refugees in different ways and showed various reactions which they articulated in the interviews: (…) however, some students showed signs of psychological strain after their assignment”

14) Also on page 25, line 12-16 - this sentence needs to be clarified, what first year students are you comparing these results to, is this compared to the study you are citing?

Thank you for raising this relevant point. We have specified the study from which we took the comparative sample (see page 26, lines 13-17).

“The participants showed significantly lower values for depression (PHQ-9) and anxiety (GAD-7), a significantly higher score for mental well-being (SF-12), a significantly lower rate of dismissing attachment style, but simultaneously a significantly higher rate of fearful attachment compared to a sample of first-year medical students as shown in a previous study of Bugaj et al. (Bugaj et al., 2016)”

15) How do you know they are significantly different? This is confusing how and if this was done, as this does not appear in your result section.

Thank you for the valuable advice. In our methods section, we described the quantitative statistical analysis (see page 15, lines 14-16):

“Group comparisons were carried out using Student’s t-test for independent samples. Correlations were calculated using Pearson’s correlation coefficients.”

The corresponding results of our statistical analysis are presented in table 5 on page 22, line 1 (please also see the manuscript for a more appropriate formatting; the table has not been changed in comparison to the first version of the manuscript):

Table 5: Psychological strain and attachment style: descriptive data and correlations.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>mean (sd)</th>
<th>norm sample mean (sd)</th>
<th>significance n</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>FST [31-155]</td>
<td>38.52 (7.91)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PHQ [0-21]</td>
<td>2.22 (2.45)</td>
<td>6.03 (4.19)a</td>
<td>290</td>
<td>-6.907</td>
<td>334.917</td>
<td>&lt;.001**</td>
</tr>
</tbody>
</table>
In this table, we present the comparison of most of our results to the results of the study by Bugaj et al. For the comparison we used a t-test. The corresponding correlations are also listed. We did not change the table in comparison to the first version of the manuscript. In addition, the main results of the table are also described in the results section (see page 21, lines 1-2).

“The participants’ sum score for depressive symptoms and anxiety was significantly lower compared to a norm sample of first-year medical students (Bugaj et al., 2016).”

also see page 21, lines 5-7:

FST= Questionnaire for Secondary Traumatization, PHQ-9= Patient Health Questionnaire depression module, GAD-7= Generalized Anxiety Disorder Scale, SF-12= 12-item Short Form Health Survey, RQ= Relationship Questionnaire, SOC-29=Sense of Coherence Scale. a (Bugaj et al., 2016), b (Hannöver et al., 2004).
“Health-related quality of life measured by the SF-12 indicated significantly higher scores for mental health when compared to a population of first-year medical students (Bugaj et al., 2016).”

Finally, we would like to thank you once again for offering us the opportunity to submit a revised version for publication in BMC Medical Education. We look forward to hearing from you soon.