

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	A before and after study on personality assessment of adolescents exposed to the 2009 earthquake in L'Aquila, Italy: influence of sports practice
<b>AUTHORS</b>	Marco Valenti, Maria Giulia Vinciguerra, Francesco Masedu, Sergio Tiberti and Vittorio Sconci

### VERSION 1 - REVIEW

<b>REVIEWER</b>	CJ Yzermans PhD Research coordinator Netherlands institute for health services research (NIVEL) No conflict of interests
<b>REVIEW RETURNED</b>	16/02/2012

<b>THE STUDY</b>	<p>Introduction</p> <p>I miss a theoretical model (or an attempt to formulate anything) about why and how sport practice should influence mental health of adolescents post-disaster. Of course it is a strength that the authors could use a pre-post design. But it was decided to use the MMPI-a pre-disaster and this instrument is not often used to measure mental health effects after disasters. Why didn't the authors restrict themselves to some of the MMPI-a scales (anxiety, depression, anger, school problems); sport practice as operationalized here is a subject of limited importance (see my comments below about the review by Lawrence et al.).</p> <p>I have several comments on the references used:</p> <p>A. Articles about Sports as a post-disaster intervention, not mentioned in the list of references:</p> <ul style="list-style-type: none"><li>- Lawrence S, da Silva M, Henley R. Sports and games for post-traumatic stress disorder (Review). The Cochrane Collaboration (John Wiley &amp; Sons), 2010.</li><li>- Kunz V. Sports as a post-disaster intervention in Bam, Iran. <i>Sport in Society</i> 2009;12:1147-57.</li><li>- Gschwend A, Selvaraju U. Psycho-social sport programmes to overcome trauma in post-disaster interventions. Swiss Academy for Development, Biel, 2006.</li><li>- Rosenbaum et al. Exercise augmentation compared to usual care for Post Traumatic Stress Disorder: A Randomised Controlled Trial. <i>BMC Psychiatry</i> 2011;11:115.</li></ul> <p>Especially not mentioning Lawrence's review is an omission. Conclusion of this review: No studies met the inclusion criteria. More</p>
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	<p>research is therefore required before a fair assessment can be made of the effectiveness of sports and games in alleviating symptoms of PTSD.</p> <p>B. Relevant articles about the health effects of the earthquake in l'Aquila, not mentioned in the list of references:  - Casacchia et al. Epidemiology and Psychiatric Sciences 2012;21:13-21.  - Dell'Osso et al. J Affect Disord 2011 ;134 :59-64.  - Dell'Osso et al. J Affect Disord 2011 ;131 : 79-83.</p> <p>C. Articles not used appropriately:  - It is mentioned on page 4 : According to studies on the psychological health of seismic victims [1-3]..... However, article 3 is not about seismic victims.  - for a general statement about consequences of disasters a study is used as a reference which is about a specific age-group (nr. 4, Udwin et al., nr. 5, Shannon et al.).  - for the general introduction of PTSD they refer to a specific paper on hurricane Mitch and the 2004 tsunami and not to a more generic paper.  - they write that it was possible to study the effects of gender and sport practice... I don't understand why they refer here to a paper on disaster preparedness (nr. 16).</p> <p>D. Articles missing: Because losing one's home and personal belongings is an important source of distress after earthquakes, I miss references about this subject.</p> <p>In short: the introduction and presentation of the research questions are not embedded in relevant literature; on the contrary most references in this section are not well chosen.</p> <p>Methods</p> <p>The goal of the study is presented in the Methods section, while I prefer inclusion in the Introduction, embedded in relevant literature.</p> <p>Why was not decided to differentiate what sport practice is? The definition used is at least twice per week for at least one hour. I wonder if four times per week for at least two hours or once a week during four hours is 'better' for (mental) health or not. How was the question about sport practice originally formulated?  Among the participants some 60% did not practice sport, pre- as well as post-disaster. Is this a 'normal' figure for Italy/Abruzzo?  Are the participants representative for all adolescents in l'Aquila, especially concerning the relocation to houses in other cities/villages/camp-sites, the move to other schools, losing family and/or friends and other factors which may influence the well-being after a disaster?</p> <p>The uniform T-score conversions are presented in table 1. I observe that the figures in the rows for yes and no sport practice for boys after the earthquake are (mistakenly) exactly the same.</p>
<b>RESULTS &amp; CONCLUSIONS</b>	<p>Results</p> <p>Figures 1-4 are not well presented. A heading is missing and both lines have the same colour.</p> <p>The authors report that the MMPI-a results are consistent with other</p>

	<p>recent studies in literature about the changes in pharmaceutical consumption in the overall population after the seism and then they refer to a study about l'Aquila performed by Rossi et al. For me this sentence is unclear: how can they make this comparison and it's rather ethnocentric to speak of recent studies in literature, meaning a study on the same subject.</p> <p>How were the baseline MMPI-a results compared to other adolescent-populations? Is the l'Aquila population a specific selection or are the results comparable to all Italian adolescents?</p> <p>The sentence starting with It seems plausible ..... ending with ..... the questionnaire used is not a result: I would suggest to remove it to the Discussion section.</p> <p>Discussion</p> <p>Based on their study the authors conclude that practising sport may be important in addressing psychological and personality problems after catastrophic events. In my opinion they have to formulate this finding more carefully because they don't deal with a laboratory situation. The participants could have suffered from life events other than the earthquake. Adolescence is a (the) period of change (school, family, hormones, love, experiences with alcohol and drugs) and there were differences in experiencing the earthquake (loss of loved ones, relocation, moving to another home/school). All these potential confounders were not controlled for. In my eyes there is a lot of guessing in this section (one possible mechanism, and so on).</p> <p>Finally, the authors promote the use of the MMPI/MMPI-a in studies after disasters. I don't agree. A questionnaire of 478 items (MMPI-a) is much too long under most circumstances. In general, in the first (1-5) months after disasters it is not recommended to use questionnaires, other than establishing the exposure to the disaster, because survivors have to regain control over their own lives. And when policy-makers decide to call for a study, this has to be limited in design. In these circumstances other, shorter instruments are preferable.</p>
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<b>REVIEWER</b>	Sue Lawrence DL Tutor, London School of Hygiene and Tropical Medicine, United Kingdom
<b>REVIEW RETURNED</b>	29/02/2012

<b>GENERAL COMMENTS</b>	<p>Dear Authors,</p> <p>Many thanks for allowing me to review your paper. There are some minor grammatical and spelling mistakes that will make your paper clearer.</p> <p>Abstract: in the Methods section the word practice is misspelled. Could you please spell out what MMPI is please?</p> <p>The sentence beginning with "A major drawback.... the word ain. Should that be main?</p> <p>Introduction: I would find it really helpful if you could take the 4th sentence out of the 3rd paragraph in the Methods/Subjects section and put it in the Introduction to let the reader know the studies initial research question. Consider a few sentences to tell the story... you started out with an initial study, then there was an earthquake so you</p>
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	<p>adapted your study..</p> <p>In the last paragraph - consider one sentence telling the reader what the MMPI is and what it measures. Otherwise one has to search for it in the Table.</p> <p>In the Subjects section: 2nd paragraph: Please put in a source for the previous study</p>
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## VERSION 1 – AUTHOR RESPONSE

REVIEWER: CJ YZERMANS

### Introduction

Sport practice in post-disasters should be regarded to as a way to administer social support in populations at risk for PTSD, as adolescents are. This offers rationale for research in this field, although evidence is not established.

In the discussion section we have added a sentence to acknowledge criticism on the use of MMPI in post-disaster environment.

With regard to references:

- A. ref. Lawrence et al (2010) was included
- B. ref. Casacchia et al (2012) and ref. Dell'Osso et al (2011) were included
- C. ref. 4, 5 and 16 were removed from text and the references list. More specific citations were included.
- D. A specific reference was included (ref 8 Armenian et al)

### Methods

The goal of the study was included in the introduction.

A definition of at least twice per week is the typical or at least minimum engagement for amateur juvenile sport practice in most team and individual sports in Italy. The inclusion criterion was: being actively engaged at least twice per week for at least one hour.

60% non practicing sport is a normal figure for Italian adolescents.

Participants were a random sample of all adolescent students in L'Aquila.

Uniform T score conversions in table 1 were corrected: we apologize for the mistake.

### Results

Figures 1-4 are now in black and white.

The sentence about pharmaceutical consumptions and the corresponding reference was removed.

There are no reasons to assume that L'Aquila adolescents are a special population with regard to their Italian peers.

The sentence starting with "It seems plausible..." was removed.

### Discussion

All conclusions regarding the role of sports practice in preventing psychological problems were smoothed as requested.

Criticism was included about the use of MMPI in post-disaster population-based studies.

REVIEWER: SUE LAWRENCE

The word practice/practise is now correctly spelled with regard to its use as a word or as verb.

MMPI was spelled at its first use.

"Major" was corrected into "main".

The sentence on the goal of the study was moved from the methods to the introduction.

We believe that references about MMPI are sufficient.

As to our "previous study" (subjects section of the methods), it only was the first phase of our study, thus we have no sources or references referring to.

**VERSION 2 – REVIEW**

<b>REVIEWER</b>	CJ Yzermans PhD, reserach coordinator NIVEL Utrecht the Netherlands  No competing interests
<b>REVIEW RETURNED</b>	17/04/2012

<b>GENERAL COMMENTS</b>	I am satisfied by the reply of the authors to my comments on the first version of the manuscript.
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