Reviewer's report

Title: Risk factors for development of non-specific musculoskeletal pain in preteens and early adolescents: A prospective 1-year follow-up study.

Version: Date: 7 May 2007

Reviewer: Charlotte Leboeuf-Yde

Reviewer's report:

General
This manuscript is now much improved. In particular, it was nice to learn about the high response rate which saved the authors from some extra work. It is also a great advancement that the pain is separated into traumatic and non-traumatic.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

However, on reading the background and discussion sections more at depth, now that the methods and results sections appear clear, I became curious over some of the statements, and managed to dig some of your REFERENCES out. It has become increasingly common for authors to be asked to report in a more transparent way, where their statements and beliefs come from, and biased interpretation and selection of "suitable" references is not so easily accepted anymore. Unfortunately, I fear that some of that is present in this text.

In the introduction, at the top of page 4, I read that ref(s) support that psychological are stronger risk factors (for the development of neck and upper limb pain (refs 9 and 23) and for lower limb pain (ref 10)) rather than physical factors. However, Ehrmann Feldman et al have shown in refs 9 and 10 (same cohort?) that work is a risk factor, and they also showed work was particularly detrimental in those with lower mental health scores. I do not feel that your interpretation gives a fair picture of their conclusions.

In arguing the case for the set up of one's own study, it is of course always tempting to build on statements that fit one's own thoughts. In my opinion, it is fair enough to build the case but it should then be done based on one's own assumptions and deductions and clearly stated to be so. I do not agree, when the literature is twisted. Therefore, I would suggest that you either check your own references again with objectivity in mind, or that you do a proper literature review and report both those for and against your own ideas, OR that you discuss out of your own thoughts and opinions, but not using bits and pieces from references without really telling the whole truth.

Also in the discussion section, I was intrigued by your use of references. You use the previous literature to support your own findings stating "...it is unlikely that this association is only a chance finding, given the narrow confidence interval and the strong evidence in the majority of previous studies [18,27].") Majority of previous findings and 2 ref(s)? One of these studies deals with persistent musculoskeletal pain, whereas yours deals with the incidence of pain = irrelevant ref. The other one is a non-systematic narrative review that although well written does not contain the full spectrum of the relevant literature = not acceptable ref.

These two ref-observations make me suspicious in relation to all the others, and I would therefore encourage you to make a check of their relevance and validity in relation to the statements you want them to support.

Also, there is the accelerometer, which - although it does not measure cycling and swimming - is better than self-reported activities... It should perhaps be mentioned. Typical self-report physical activities and inactivities have been validated against the accelerometer and found to be wanting. (Wedderkopp Spine 2003)

I am sorry to spring this on you now, but I did not doubt your use of references during my previous read-through.

According to your statistical methods, sex was not included in the multi variate analysis, and I therefore cannot quite interpret your statement on sex in the result section ("borderline significance were found for..."
female gender..."

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**Minor Essential Revisions** (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Abstract, background, 4th line: "e.g. Low back pain" change to small "l"
Background, methods, 2nd line, "...extracted as whether they experienced" does not sound right.

P.6, 2nd para, you are missing some commas, when listing the symptoms, and also a colong after "... of the following symptoms..."

When you say that "Vigorous exercise was defined as practicing exercise in a frequency of ...", please check if "in" is the right preposition by somebody whose maternal language is English and clarify is they had to practice exercise "to breathlessness..." in order to be classified under vigorous exercise. Otherwise I would imagine that you are introducing a new subheading that should be called "frequent exercise".

p.10, 2nd line from the bottom, "a" is missing before "self-completed questionnaire".

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**Discretionary Revisions** (which the author can choose to ignore)

When you report that females are more likely to report new (non-traumatic) pain than boys this appears logical to me. Wedderkopp has previously shown a very clear link with the pubertal stages and the development of LBP. Your study population is taken at this cutpoint, so it is likely that this strong link is puberty-related.

What next?: Accept after minor essential revisions
Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being published
Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
I declare that I have no competing interests.