Author’s response to reviews

Title: Sports participation related to injuries and illnesses among ambulatory youth with chronic diseases: results of the Health in Adapted Youth Sports study

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Author’s response to reviews:

Zoe Louise Saynor, PhD, MSc, BSc (Hons) (Reviewer 1)

Summary
The manuscript entitled, "Sports participation related to injuries and illnesses among youth with chronic diseases: results of the Health in Adapted Youth Sports Study" provides interesting and novel information concerning the injury risk associated with sports participation in youth with chronic disease or disability. This is topical and of importance, given that most young people fail to meet the minimum physical activity for health recommendations, with participation often being poorer in individuals who have an underlying health condition and/or altered physical function. There are some sections that require proof reading and some writing improvements to bring this up to the standard for publication. I feel that the manuscript could be improved by making more of the different disease subgroups. I have some minor comments, outlined below, which may help to improve the quality of the manuscript.

More detailed comments / suggestions are provided below:

Title:
The title needs to include that all individuals including in this study were ambulatory.
Response: we thank the reviewer for this comment. We added ambulatory in the title of the manuscript accordingly:
‘Sports participation related to injuries and illnesses among ambulatory youth with chronic diseases: results of the Health in Adapted Youth Sports study’. Page 1, 1-2.
Abstract:
In the single statement of summarising the clinical relevance, the final statements are not particularly related to the present data. These should be amended to focus on the messages that can be taken from the present findings, rather than wider contextual information.
Response: We thank the reviewer for this comment. We rephrased the single statement of the clinical relevance accordingly:
‘Participation in sports at least twice weekly gives no higher risk in the incidence of injury per 1000 hours of physical activity in ambulatory youth with CDPD compared with once or no participation in sports per week. The impact of injuries or illnesses was only minor. Given the evident health benefits for youth with CDPD, parents should encourage and support their children to participate in sports at least twice weekly.’ Page 3, 3-7.

Introduction:
Lines 37-45: Can you really pool together and discuss all different types of chronic health conditions together, particularly when there is evidence of different disease-specific barriers to physical activity participation? Such as pain in musculoskeletal conditions, versus fear of hypoxaemia in respiratory disease.
Response: We thank the reviewer for noticing this very important point. Overall, youth with CDPD are structurally less physical active in daily life in comparison with their healthy peers. In this perspective, we like to refer to another paper of the HAYS study, were the PA data of the participants is presented (1). We investigated differences between subgroups of chronic health conditions according to the PA level in daily life. Results shows that participants with a neuromuscular disorder were less active during weekend- and weekdays (because of their pathological gait pattern) compared to those without a neuromuscular disease (i.e. other chronic conditions like asthma or diabetes). However, youth with a neuromuscular disease who were participating in sports at least twice weekly benefit from the positive effects of sports. Participation in sports contributes to a better muscular function for example. Since we know this, the next point is whether sport specifically leads to injuries and illnesses that influence sports participation. With the analysis of the injury and illness data we looked at whether a certain group of children with the same chronic health condition suffered more injuries / illnesses compared to youngsters with another chronic health condition. This turned out not to be the case.

We added the following sentence to the discussion:
‘It could be of interest to conduct analyses per medical diagnose subgroup. Unfortunately, the sample sizes within the different medical diagnose groups in this study were too small for adequate statistical analyses.’ Page 13, 16-18.
You need to proof read the document and ensure that you are writing in the past tense throughout, for example the study aims.
Response: we thank the reviewer for this comment. We proof read the document.

Methods:
How happy are you with the accuracy of the recall data over a two week period? Do you have any data to support this?
Response: We thank the reviewer for this comment. Recall periods of between 1 and 3 months are recommended in childhood injury epidemiology. Rates of injuries that caused a school loss day, a bed day, surgery, or hospitalization showed higher stability throughout recall periods compared to minor injuries with no time-loss. In that perspective, we are happy with the recall data over a two week period.
in our study.

In addition, we have tried to ensure the accuracy of the data. Prior to the study participation, we informed all participants and their parents about the questions we would ask by telephone if there was an injury or illness. In that way, they knew already what kind of data they had to recall.

Subsequent, we think that the two week period is the most optimal for the population that we have studied for a 12-months period. It would be more time consuming for the participant and/or their parents to fill in the questionnaires more frequently. This burden could be of influence on the study adherence or could even lead to higher dropout rates. Ideally we had used more modern techniques, like eHealth-based applications that can monitor more frequent and less time-consuming, as pointed out in the discussion section of the manuscript (see page 13, 3-7). Unfortunately, we did not have that kind of means to apply.

The different chronic disease subgroups have all been pooled together within this study. It would be of interest to separate out and make more of the differences between the different subgroups. Surely one would expect a large disparity in injury type etc. between individuals with different underlying disease pathologies?

Response: we thank the reviewer for this comment. We added the following sentence in the limitation section of this manuscript:

‘It could be of interest to conduct analyses per medical diagnose subgroup. Unfortunately, the sample sizes within the different medical diagnose groups in this study were too small for adequate statistical analyses.’ Page 13, 16-18.

You need to proof read the document and ensure that you are writing in the past tense throughout, several cases of this not being the case throughout the methods.

Page 5 line 52: 'form a' should read 'from a'
Response: we rephrased the word as suggested.

Given that all participants were required to be ambulatory, this needs to be clearly articulated in the title and other manuscript sections, since the consequence of this is that the study cohort only represents a subgroup of the populations included.

Response: We thank the reviewer for this important note. We added ‘ambulatory’ in the title, as a keyword and in other sections of the manuscript, see below the changes made in the text.

Title: Sports participation related to injuries and illnesses among ambulatory youth with chronic diseases: results of the Health in Adapted Youth Sports study

Abstract: This study investigated the incidence, type, severity and risks to (sports-related) injuries and illnesses among ambulatory youth with CDPD.

Single statement: Participation in sports at least twice weekly gives no higher risk in the incidence of injury per 1000 hours of physical activity in ambulatory youth with CDPD compared with once or no participation in sports per week.

Introduction: Therefore the aim of this study was to investigate the incidence, type, severity and risks of (sports-related) injuries and illnesses among ambulatory youth with CDPD
Methods: 2) to calculate the injury and illness rates per 1000 hours of PA per group among ambulatory youth with CDPD participating in organized sports once or twice a week and peers who do not participate in sports at all. See page lines

Methods, participants: Ambulatory youth with CDPD were recruited for participation in the HAYS study between October 2014 and October 2016.

Discussion: The aim of this study was to investigate the incidence, type, severity and risks of (sports-related) injuries and illnesses among ambulatory youth with CDPD using a cross-sectional analysis of data aggregated and extrapolated over time.

Conclusion: Participation in sports twice a week does not pose an increased risk in the incidence of injury or illness per 1000 hours of PA in ambulatory youth with CDPD compared to once or no participation in sports per week.

Page 6 line 4: outline better within the main body of the text how many individuals were in each disease group.
Response: We thank the reviewer for this suggestion. We like to refer to table 1 for this point, otherwise the information is given twice within the paper.

Page 6 lines 23 and 34: You state that young adults were included, however the title and elsewhere in the article it is stated that the study is focused on youth. Young adults are not youth and this should be outlined clearly and reflected throughout the article.
Response: We thank the reviewer for this comment. We rephrased young adult in adolescent throughout the text.

On this note, was there any data to provide data concerning the pubertal maturation of the participants who were included in this study?
Response: unfortunately, we do not have any data about the pubertal maturation of the participants. We added the following sentence to the limitation section of the manuscript;

‘In addition, no information about the pubertal maturation of the participants was collected. During pubertal maturation risk on growth-related injuries is high (2). Future studies should take aspects like pubertal maturation, training history, training status and physical fitness level into account and may also investigate how the level of sport participation is related to injury and illness risks in order to develop risk profiles and injury prevention programs in more detail for youth with CDPD’. Page 14, 9-10.

Page 6 lines 38-40: Repetition from above, remove statement about using the ACSM classification information.
Response: We removed the sentence about using the ACSM classification as suggested.

Page 7 Line 24: Are you able to confirm whether a PA / wear time diary was also used?
Response: No PA / wear time diary was used, this was also not necessary. The used accelerometer was attached with a waterproof skin tape to the upper leg of the participant during 7 days. The participant wore the accelerometer 24/7. We used the accelerometry data of the hours that the participant was awake (awake hours). For specific details about the use of the accelerometer and the analysis of data of the participants within the HAYS study see the paper of Lankhorst et al. 2019 (1).
Furthermore, were wear time cut-offs utilised in the present PA data analysis?
Response: Following the above explanation about the application of the accelerometer and the data of the 'awake hours', this question no longer applies.

Results:
Page 9 Line 52: 'did not wanted' should read 'did not want'
Response: we rephrased the word as suggested.

Page 9 Line 54: Please provide further details regarding why the additional 10% of participants dropped out.
Response: We thank the reviewer for this comment. We like to refer to flowchart 1 for the specific details regarding the additional 10% participants who dropped out. Reasons were; 1) unreachable by email or telephone N=2, 2) preferred not to participate anymore N=1, 3) no available internet N=1, 4) no reason given N=10. Participants may stop participating in the study without giving a reason, as described in the law for participation in scientific research. That is why we received ‘no reason’ from 10 participants why they stopped participating in the study.

Page 9 Line 58: 'was random' should read 'was randomly'
Response: we rephrased the word as suggested.

Page 10 Line 8: also include the n in the other disease subgroups
Response: We thank the reviewer for this suggestion. We like to refer to table 1 for this point, otherwise the information is given twice within the paper (main text and the table).

Page 11 Lines 9-12: Is it possible to also conduct analyses per disease subgroup, to compare e.g. MSK with neuro for example?
Response: We thank the reviewer for this question. Unfortunately is this not possible, because of the low sample size per subgroup.

We added the following sentence to the limitation section of the manuscript.

‘It could be of interest to conduct analyses per medical diagnose subgroup. Unfortunately, the sample sizes within the different medical diagnose groups in this study were too small for adequate statistical analyses.’ Page 13, 16-18.

Discussion:
Further discussion should be added to compare the injury risk between different disease subgroups.
Response: We thank the reviewer for this comment.

We added the following sentence to the limitation section of the manuscript.

‘It could be of interest to conduct analyses per medical diagnose subgroup. Unfortunately, the sample sizes within the different medical diagnose groups in this study were too small for adequate statistical analyses.’ Page 13, 16-18.


Jack Harvey (Reviewer 2)

Response to reviewers
Manuscript ID: SSMR-D-19-00048R2
Title: Sports participation related to injuries and illnesses among youth with chronic diseases: results of the Health in Adapted Youth Sports study

The manuscript conforms to an appropriate structure and style. The methods and results are clearly described and the research seems methodologically sound, although I question the use of the term longitudinal, and I have some questions about the statistical analysis, where the explanation lacks some important detail. Other than that, most of the points of detail below concern English vocabulary and expression.

Response: we thank the reviewer for the comments.

In the following, for brevity, some suggested straightforward revisions to wording are presented without comment or quotation marks. -&gt; represents “replace by”.

Response: We thank the reviewer for all suggestions according to English vocabulary and expression. For brevity, we have adapted all made suggestions concerning English vocabulary and expression in the text.

Page/line Comments and suggestions
2/ 26 sustained
28 “respectively” is not generally abbreviated to “resp.”. This occurs throughout the manuscript.
28, 30 rates
30 was -&gt; were
32 …differences between the rates were not statistically significant.
35 flu
Response: We thank the reviewer for the abovementioned comments. We have adapted the text as suggested above.

42-44 “…compared to once weekly or no sport participation” is ambiguous here – is this one comparison or two (Tables 4 and 5 include both). However, see my comment about this below (P11 L17).

Response: This are two comparisons. We have rephrased the conclusion accordingly;‘Participation in sports ≥2 times per week does not pose a significant increased risk in the incidence of
injury or illness per 1000 hours of PA in youth with CDPD compared to their peers who participate less frequent (once weekly) and compared to non-sports participants.’ See page 2, 19-21.

3/ 15-20 It is not clear how the concluding sentence aligns with the reported findings.
Response: we thank the reviewer for this comment.
We rephrased the clinical relevance accordingly;
‘Participation in sports at least twice weekly gives no higher risk in the incidence of injury per 1000 hours of physical activity in ambulatory youth with CDPD compared with once or no participation in sports per week. The impact of injuries or illnesses was only minor. Given the evident health benefits for youth with CDPD, parents should encourage and support their children to participate in sports at least twice weekly.’ See page 3, 3-7.

4/ 11 has -&gt; have
14 “those youngsters” presumably refers to club members but it is ambiguous. “with CDPD” is repetitive and unnecessary. Twice as likely as whom?
I suggest “; those who are sport club members are twice as likely as non-members to meet…”
22 Shift paragraph break. I think the last sentence of this paragraph should be the first sentence of the next paragraph.
50 …any more or needing…
52 beliefs
57 in -&gt; into
Response: We thank the reviewer for the abovementioned comments. We have adapted the text as suggested above.

5/ 6 While this is a prospective cohort study with data being collected over an extended period of time, in my view that is not enough to characterise it as a longitudinal study. A longitudinal study evaluates changes over time by comparing “waves” of data collected on multiple occasions. It may also incorporate comparison of different groups. A cross-sectional study compares different groups on the basis of a single wave of data, which may be collected from all participants at the same time, or at different individual times. In this study, demographics and other covariates were collected on one occasion (baseline) for each individual. Exposure data collected once (for a 1-week period) were extrapolated to estimate 12-month exposure. Injury and illness data were collected on multiple (26) occasions, but there was no investigation of changes throughout the 12-month period; these data were aggregated into a single measure (a count) for each of injury and illness, and these counts were used in combination with the single exposure estimate to compare groups via IRD and IRR measures. This is a cross-sectional analysis of data aggregated and extrapolated over time. The injury and illness data may at a stretch be termed longitudinal, but crucially the analysis is not. Please review and revise the
multiple instances of “longitudinal” in the text.

Response: We thank the reviewer for the clear comments. We have reviewed the multiple instances of ‘longitudinal’ and rephrased to ‘prospective cohort study’ throughout the manuscript.

19 sub-study

52 form -&gt; from

57 “with CDPD” is redundant.

Response: We have changed the text as indicated.

6/ 21 Some participles (not all) follow nouns rather than being placed in front like adjectives. So “procedures followed” (but “cooked food”).

23-28 Conventionally, lists start with a colon (:), with items separated by either commas or (particularly if there are commas within items) semi-colons (;).

Also, the term “calendar year” (i.e. January to December) is not correct. As I understand it, each person was monitored for 12 months from their baseline.

Hence -&gt;

…of: 1) a baseline assessment with the child or young adult and parent(s); 2) objectively measured PA level of the participants during one school week; and 3) two-weekly reporting of each injury or illness, for 12 months following the baseline assessment.

Please review and revise “calendar year” throughout the text.

Response: We thank the reviewer for these comments. We have rephrased the sentences as suggested. See page 6, 14-17.

In addition, we have rephrased ‘calendar year’ into ‘a 12-month period’ throughout the manuscript.

39-42 …participation at baseline was…

48 is / are -.&gt; is/are. It is conventional to have no spaces around / indicating alternatives. Many other instances throughout the manuscript.

Response: We have changed the text as indicated.

50 Answers to Question 3 in particular, and interpretation of those answers, is complicated by seasonality of many sports. Please indicate if/how you addressed this issue, and/or discuss it as a limitation.

Response: We asked the participants to contact the researchers if there were any changes in sports participation during the season. This has never occurred.

7/ 8-14 This section would be more appropriately placed at the end of the Introduction (without the numerical designations of the groups – not yet defined at that point), or incorporated into the
Introduction: ‘Therefore the aim of this study was to investigate the incidence, type, severity and risks of (sports-related) injuries and illnesses among ambulatory youth with CDPD over a 12-month period. We also investigated whether the more serious sports participants run a higher risk of being injured or ill compared to the less serious peers.’ Page 5, 3-6.

Statistical analysis: ‘We also investigated whether the more serious sports participants (two or more times of sports participation p/wk.) run a higher risk of being injured or ill compared to the less serious peers who participate in sports once per week (group 1) and not at all (group 0).’ Page 9, 10-13.

12-14 What is the rationale for this comparison? Please explain.
Response: The HAYS study is originally a cross-sectional study, comparing two groups on several health related variables like physical fitness, physical activity and psychosocial health(1-3). Sports participants who are participating in organized sports at least two times per week were compared with their non-sporting peers and those who participate in sports just once per week. Because we also want to place the incidence of injuries and illnesses in the larger picture, we have added this comparison to the results section.

14 If the previous sentences are relocated as suggested, this paragraph is only about exposure (good - a paragraph should have a single theme), but the word “exposure” does not occur. I suggest “Exposure to sport/PA was…”
Response: we rephrased the sentence as suggested.

23 I am unclear as to the meaning of “(active vs inactive)” here. Considering that this dichotomy was not used in the present “sub-study”, consider omitting this detail.
Response: we deleted this detail, as suggested.

30 “studied” is redundant (see also P6 L21 above). Perhaps just simplify to “…of PA data in the HAYS study…”
Response: we rephrased the sentence as suggested.

35 measured -&gt; conducted. Monitoring is a process – monitoring is not itself measured, though it may involve something being measured; monitoring is carried out or conducted.
Response: we rephrased the sentence accordingly;

‘The monitoring of injuries and/or illnesses during the 12-month follow-up period was conducted by use of an online questionnaire.’ Page 7, 16-17.

44 during one calendar year -&gt; for 12 months

46-48 …concerning injuries or illnesses suffered during…(see P6 L21 above)

51 when -&gt; if
55 In the personal…

Response: We have changed the text as indicated.

8/ 8 Delete “and was defined” – redundant.

11 Presumably, these definitions have been translated into English, and can be edited. My suggestions:

11 resulting &gt; which results

13, 20 causes

26 Either “a previous injury surveillance study” or “previous injury surveillance research”

46 of &gt; until

52-57 The general introduction should precede the specific implementation. Reverse the order of these two sentences.

54 episodes &gt; some fixed quantity/amount/quantum

Response: We have changed the text as indicated.

9/ 8 Move “hours” thus: “the total hours of exposure… x 1000”

Response: We have changed the text as suggested.

14-16 I cannot find any post-hoc test results.

Response: we thank the reviewer for this comment. We deleted this sentence, we did not computed any post-hoc tests.

18 It is not clear to me why or how a Kruskal-Wallis test would be used in this context. In each case the group categorization is cross-tabulated against another categorical variable – presence or absence of each disease (Table 1). I would expect a chi-square test of independence or association.

Response: We thank the reviewer for this response. We apologize for referring to the wrong test, of course we used a chi-squared test. We have corrected the footnote at table 1 and in the method section we have changed the text accordingly;

Method section: ‘The chi-square test was used determining the differences between the three groups for sex and prevalence of diseases or disabilities.’ Page 9, 7.

23-25 Conversely, the reference to the chi-square test here seems to pertain to Tables 4 &amp; 5. The term “occurrence of injuries and illnesses within one calendar year” (apart from the issue of “calendar year” P6 L23-28 above) needs more precise definition. The unit of analysis in a chi-square test of independence or association is an individual, but the incidence counts and rates in Tables 4
5 are aggregated across individuals (per P9 L4-10), which suggests that the chi-square results in Tables 4 & 5 are based on some other form of chi-square test applicable to IRD or IRR. Please clarify.

Response: we thank the reviewer for this comment. We made a comparison of two rates, by use of MedCalc software statistics. A p-value is given for the incidence rate difference, which gives an indication if the relative risk is statistically significant.

We rephrased the used statistics in the method sections accordingly:

‘Determining the differences between the three groups for the incidence of injuries and illnesses (injury and illness rates) during the 12-month follow-up period and calculation of the 95% confidence intervals for injury and illness rates were performed using MedCalc for Windows, version 17.9 (MedCalc Software, Ostend, Belgium). A p value < 0.05 was considered statistically significant.’ Page 9, 15-16.

In addition, we deleted the reference to chi-square test in table 4 and 5, which was not correct.

52 electronically -&gt; electronic. Better deleted – it is redundant, since email is inherently electronic (hence the “e”!).

Response: We have changed the text as indicated.

I am also concerned that 10% (14/140) of a sample of modest size should be lost in this way, and I am a bit perplexed about why such a problem would not have been detected and rectified. As a matter of professional curiosity, I would appreciate an explanation of just what occurred and why it could not be rectified.

Response: We thank the reviewer for this response. Yes, we were really perplexed about the error while monitoring injury data. Unfortunately, the error with 14 participants was only discovered six months after the participants were registered for the study. For that reason it was no longer possible to correct the missing injury and illness data of these specific participants, it was too long ago. This would result in recall bias.

52 want

54 dropped out. Another quirk of English. “Drop-out” is a composite noun (one word) which has a hyphen, but “drop out” or “dropped out” is two words (verb + preposition) and has no hyphen.

Response: we thank the reviewer for this explanation. We have changed the text as suggested.

10/ 6 p-value conventionally has lower-case p. Revise throughout the text.

Response: We have revised p-value as suggested throughout the manuscript.

11/ 15 …not statistically significant…
Also, please provide more detail about the IRD and IRR analyses in Tables 4 and 5.

• Which statistic does the p-value pertain to - the IRD or the IRR?
  Response: to the IRD. We reorganised both table 4 as 5, to clarify the IRD and p-value.

• Have the issues of distributional skew, heterogeneity of individual incidence rates and lack of independence of observations due to repeat injuries (Shrier et al., 2009) been considered?
  Response: We thank the reviewer for this comment. No, we have not considered these issues as described by Shrier et al. 2009.

• If so, please include details in the statistical analysis methods.
  If not, please include a discussion of these issues in Limitations.

• If the analysis has utilised what Shier et al. (2009, p1313) call the “standard formula” of Knowles et al. (2006, p213), how does the chi-square test fit in with this?
  Response: We thank the reviewer for explaining this point. We apologize for writing down the wrong used statistical tests.

We added the following sentence to the statistical analysis paragraph, accordingly;

‘Determining the differences between the three groups for the incidence of injuries and illnesses (injury and illness rates) during the 12-month follow-up period and calculation of the 95% confidence intervals for injury and illness rates were performed using MedCalc.’ Page 9, 17-19.

Additional information about Medcalc and used statistic methods;

1. For the difference between two rates, MedCalc uses the "Test based Method" given on page 169 of Sahai H, Khurshid A (1996).

2. For the incidence rate ratio, MedCalc uses the "Exact Poisson Method" given on page 172-174 of Sahai H, Khurshid A (1996).


• Are the p-values adjusted for post hoc multiple comparisons, such as Bonferroni correction?
  Response: No, we did not used a Bonferroni correction for multiple comparisons.

17 There is no mention in the Statistical Analysis section of the comparison of Group 2 against Groups 0 and 1 combined (although my suggestion at P7 L8-14 will rectify that). What is the rationale for conducting this particular comparison (which of course has a larger sample size and hence greater power than the pairwise comparisons between groups)? Please clarify, and consider omitting this comparison in each table.

Response: We thank the reviewer for the suggestion to omit this comparison. The HAYS study is originally a cross-sectional study, comparing sports participants who are participating in organized sports at least two times per week with their non-sporting peers and those who participate in sports just once per week.

Because we also want to place the incidence of injuries and illnesses in the larger picture, we have added this comparison to the results.

26 longitudinal. See P5 L6.
stimulated -> encouraged
longitudinal. See P5 L6.
Delete “presumptive”. Significantly

...risky for sustaining injuries, while another study of healthy youth without a CDPD showed...
...are as high as those occurring during...

Response: We thank the reviewer for the abovementioned comments. We have adapted the text as suggested above.

The theme of this paragraph is not clear to me, and the expression is circuitous and repetitive. Please review and clarify.

Comparable to what?

Response: We have rephrased the paragraph, because the comparison was indeed not clear described. we rephrased accordingly;

‘Some studies concluded that sports participation is the most risky for sustaining injuries, while another study of healthy youth without a CDPD showed that the absolute number of injuries occurring during leisure time and PE are as high as those occurring during sports (27). The latter is in line with results in our study. The injury rate was not statistically significant between those who participate into sports and those who are not.’ Page 11 line 29 and Page 12 lines 1 to 4.

AND

‘As a result of our study, non-sporting participants also get injured, not from sports participation but they get injured by less intense physical activities: PE lessons, ADL or non-organized sports and play in leisure time. Interestingly, youth participating in sport ≥ 2 times per week were less likely to get injured in daily life situations compared to those who participate in sports once per week. We conjecture that the more frequent sports participant might have better motor skills or participate in low-risk sports, which makes them less vulnerable to an injury.’ Page 12, 5 – 11.

...also get injured from less intense physical activities: (colon)

Less likely than whom? This is only the case for 2 vs 1, not 2 vs 0. Furthermore, there was no significance test reported. – hence delete please.

Response: We have rephrased the sentence accordingly;
‘Interestingly, youth participating in sport ≥ 2 times per week were less likely to get injured in daily life situations compared to those who participate in sports once per week. We conjecture that the more frequent sports participant might have better motor skills or participate in low-risk sports, which makes them less vulnerable to an injury in comparison with less frequent sports participants.’ Page 12, 7-11.

15 (For future reference) We conjecture that they might have…

49 …not comparable with our research with respect to study…diagnoses…level.

Response: We have changed the text as suggested.

13/ 4-10 See my comments regarding combining groups 0 and 1 (P11 L17) and post hoc correction (P11 L15).

6-8 …with less frequent or no sports participation.

10 …effect against illnesses.

17 See comments elsewhere re calendar year & longitudinal

Response: We have rephrased calendar year into a 12-month period and longitudinal into prospective cohort study, as suggested.

20 of -&gt; to

20-22 Analysis based on exposure is standard epidemiological practice, and as such is not exceptional and should not be claimed as a strength.

Response: We thank the reviewer for this comment. We have rephrased this alinea, accordingly; ‘This study was the first large study to evaluate injuries and illnesses among sporting and non-sporting youth with CDPD over a 12-month period. Strong points are the prospective injury and illness data monitoring in combination with the objective direct measurement of PA by using accelerometry. In addition, the incidence to injuries and illnesses and calculation of rates are based on exposure of objectively measured PA, which is a key factor.’ Page 13, 9-13.

39 subjectively child, (semi colon precedes a clause; what follows “child” is a phrase (no verb)) objectively

50 …study by Fagher…

57 Moreover, there…

Response: We have changed the text as suggested.

14/ 4 Reference needed for this statement.
Response: we have added an reference Lloyd et al. 2016 (4).
8 remain

28 ...could influence prevention of...

Response: We have changed the text as suggested.

Table 1

Kruskal-Wallis test: see P9 L18 above.
We thank the reviewer for this response. We apologize for referring to the wrong test, of course we used a chi-squared test. We have corrected the footnote at table 1 and in the method section we have changed the text accordingly;

Method section: ‘The chi-square test was used determining the differences between the three groups for sex and prevalence of diseases or disabilities.’ Page 9, 7.

Table 2

• Heading: “one calendar year” -&gt; “a 12-month period”
• “Severity of Injuries” subheading: missing *
• “Severe (&gt;21 days)” row: purpose of *?
Response: There is no purpose for *. We have deleted the *.

• Why is there only one block of 4 levels of severity for injuries, but two blocks (school &amp; PE/Sports) for illnesses?
Response: We thank the reviewer for this comment, we have added one block for the level of severity for injuries (school).

• “Severity of Illnesses” school black subheading: missing *
• Footnotes: timeloss -&gt; time loss
Response: We have changed all the above mentioned as suggested.

Tables 4 &amp; 5

• See P11 L15-17 above.
• Missing IRR statistics in Table 4
Response: We have added the IRR statistics in Table 4.

References:

