



Physical Activity Barriers Among People with Physical Disabilities and/or Chronic Diseases During and After Rehabilitation: the ReSpAct Cohort Study

Editor notes:

Dear authors,

Both reviewers see merit in the work and has potential to be published in EUJAPA. They have also provided some important comments that can be used by the authors to improve the manuscript. All comments seem relevant to me, and the authors should consider that they had limited time to carry out their review, and the authors should consider their comments in when revising the manuscript. With this in mind, if the authors noticed other areas in the manuscript that they should update and revise, they have the opportunity to do so now.

In terms of submitting the revision, kindly following the steps, and provide a highlighted changed version of the manuscript with a list of changes (as a response to the reviewers comments).

Here are some editor's comments for the authors to also address;

1. Title should be in sentence case.
2. First line of the abstract (L9-12) is duplicated from previous works, and requires paraphrasing.
3. The journal does not use / in the text as it is treated as ambiguous (see APA 7th Edition), therefore, authors must choose either 'and' or 'or', not both. It appears 'or' would be the most suitable choose for your sample, as not all have both, but some do. Be mindful of the comments from Reviewer 2 about consistency too.
4. L80-82, is duplicated from previous works, and requires paraphrasing, or use of quotations with citation.
5. L103-106, 108-110, 116-118, 121-122, 124-135, 133-135, 136-137, 164-165, is also duplicated from previous works. Even though it is methodological, it should be paraphrased.
6. Authors need to make sure the details in the statistical analyses are sufficiently clear for other authors to be able to replicate the findings. If at all possible, authors should consider sharing their statistical codes in the appendix, or a link to OSF (or similar).
7. Tables in EUJAPA should be updated whereby only one bit of information is in one cell. So, one column would have the mean, the other column would have the SD. The column headings should therefore be included.
8. It is not clear what is the purpose of the diagnosis % distribution across the years. If you are trying to demonstrate they they did not change over the years, then a statistical test should be used to demonstrate this. In fact, it might be useful if the authors did a Chi2 test of independence between T0, T1, T2, T3 and report that in the table. Or alternative test between the T3 and the excluded. Of which, more details are needed to explain at which point were the individuals excluded? where that at each time point or only at the end? The same applies for all the other characteristics/behaviours of the cohorts. EUJAPA does not use * or ** for Chi-square tests, rather the p-values should be reported in a separate column.
9. Table 2 requires reporting of statistical differences between the cohorts, and where SD = 0.8, a zero should be in front of it. one cell, one bit of info.
10. Table 3, one cell, one bit of info. No need to bold as you have the p-value. No need to report both the SD and the 95% CI. Hence remove the SD. Make sure the LCI and the UCI are in separate cells. Take note of reviewer 1 where effect sizes would be useful to see. See APA7th Edition for reporting statistics.
11. Table 4 header should be shorter, and information could be added as a note underneath. one cell, one bit of info.
12. Similiar with the appendix Tables.
13. Authors should visit their reference software and list to ensure it is all in APA 7th Edition. For example, Drigny et al is not in sentence case and the journal is abbreviated (many references are like this), Nigg et al, has <https://doi.org/> reported twice, Saebu doi link is in the wrong place.

All in all, the manuscript has potential, and does require the authors to revise it.



Sincerely,
Kwok Ng
EUJAPA (Acting) Section Editor.

Reviews ver. 1

Review no. 1: Recommended major revision

Thank you for the opportunity to review the manuscript titled "Physical Activity Barriers Among People with Physical Disabilities and/or Chronic Diseases During and After Rehabilitation: the ReSpAct Cohort Study". This study has several strengths. First, I find the research question very novel and relevant. A longitudinal assessment of how barriers change, over this very important stage, is very interesting. Second, the methods appear rigorous considering the large sample. The main critique is regarding the significance of the findings. Although statistically significant, the change in the reported prevalence of barriers is extremely minute (typically, .1 of a point change). Could effect sizes be calculated?

The authors acknowledge the small changes in their discussion. But still, I feel they over emphasize the significance of these changes in their abstract, perspective section, and conclusion. For example, the abstract concludes with the statement "the findings help to understand how, when and why PA promotion interventions are successful and contribute to optimizing PA promotion strategies during and after rehabilitation". I struggle to see how this is accomplished within the current study. I would agree with the authors that the findings may have been impacted by the nature of the questionnaire being used: "This questionnaire only gives a certain and limited impression of all kinds of PA capability, opportunity and motivation barriers". I too expect this may have impacted the findings. As physical activity levels clearly increased over time in this study, some key barriers to PA must have been alleviated. I doubt these barriers were sufficiently captured by the questionnaire used.

My comments are summarized below:

- The introduction provides a good rationale for the study.
- There are multiple errors throughout the manuscript that indicate a thorough proofread is required. For example:
 - o Purpose statement: "in the frequency of PA barriers perceived by people..." [The term 'presence' is not necessary here or elsewhere when discussing 'perceived barriers'].
 - o Enrolled from May 2013 until August 2015 (line 101).
 - o In describing study exclusion criteria, add an 'and' between point 1 and 2 (line 112).
 - o "Dichotomized as or into" (line 123)
- Line 127: "Except for age and sex, which were reported by the RSE counselor." How did the RSE counselor ascertain their age and how was this information permitted to be shared with the researchers?
- The list of PA barriers and their definitions is crucial and should be included as a main table within the article, not as an appendix.
- Also, re the PA barriers Likert scale: Can you share what the other points, (2,3,4) correspond to? (if 1 = never, 5 = very often). It would help make sense of the mean scores.
- Line 141: To aid in the interpretation of PA barrier scores in the results, it would be helpful to be given the range of PA barrier scores for each of the three areas (capability, opportunity, and motivation). I know it can easily be calculated by the reader but still.
- "Participants administered reported" (line 163)
- Line 161: It has shown appropriate reliability and comparable validity to other PA questionnaires, when compared to accelerometer-derived PA □ The interpretation of reliability and validity ICC scores would be more insightful than saying it is comparable to other PA questionnaires.
- Line 170-172: Unclear-does not seem like a full sentence
- "We created six longitudinal mixed models to analyze the longitudinal associations between self-reported PA



behavior (dependent variable) and PA barrier groups (independent variables). Models 4-6 analyzed, respectively, the longitudinal associations between PA behavior and capability barrier..." □ Consistently present the relationship as barriers -> PA behaviors (as that is the hypothesized direction of the relationship). Same goes for presentation of the results on lines 242-250: be consistent with the presentation of the relationship direction: Barriers -> PA.

- . Line 222: Specify what 'mean score' you are referring to (remind the reader)

Results:

- . The statistically significant changes in reported barriers across time seem very small (e.g., motivation: 2.1 -> 2 on a scale of 2-10). Can effect sizes be presented for these results? [PS. After reading the discussion, I see you acknowledge this very small change. Effect sizes would be helpful to quantify it].
- . Line 259-269: "(e.g., lack of motivation, embarrassment)" -> change to "i.e.," as these are the only two factors that make up this variable.
- . If barriers didn't really change, why did PA increase overtime? This warrants some further discussion.
- . Line 346: "Our findings enrich the existing PA literature by showing how perceived PA barriers change over time" □ As I stated above, I think these conclusions need to be tempered considering the questionable meaningfulness of the changes.
- . Line 377: Not all diagnosis groups were adequately represented in our dataset.
- . This review highlights the need for clarity in reporting and the importance of presenting statistical data effectively

Discussion

- . The discussion is well-written and contextualizes the findings within the larger literature base. It also does acknowledge the small changes in PA barriers reported in the study. It does, however, still over emphasize the meaningfulness of the results.

Is the submission properly formatted into Introduction, Yes Methods, Results, Discussion, Perspectives and References?	Overall originality <i>Good</i>
Stylistic level, text comprehensibility, use of standard English <i>Good</i>	Methodology, experimental design, technical soundness, do <i>Unacceptable</i> the data support the conclusions
Statistical processing <i>Good</i>	Ethical aspects, informed consent, approval from institutional <i>Good</i> review board (ethics committee)

Review no. 2: Recommended minor revision

The purpose of this study was to longitudinal changes in frequencies of presence of PA barriers perceived by people with physical disabilities and/or chronic diseases during and after receiving the "Rehabilitation, Sports and Exercise" (RSE) program, and to further explore associations between perceived PA barriers and self-reported PA behavior at four time points. There is an obvious merit of this study, i.e., the use of data based on a cohort study with a large sample size. While acknowledging the manuscript is well written in general, I have some concerns/queries on the following points for the authors to consider for the improvement of their meaningful work.

1. Definition of population group: because all participants in this study were aged at or above 18 years, to describe the participants using "adults with physical disabilities and/or chronic diseases" seems more concise than using "people with physical disabilities and/or chronic diseases" throughout the manuscript. Besides, "people with physical disabilities and chronic diseases" and "people with physical disabilities and/or chronic diseases" are used interchangeably, with and without the word "or" in the term would refer to population groups with different characteristics. To avoid confusions, the authors should choose the right one and use it consistently.
2. Line 130-132, page 3: The authors reported that "the number of received counseling sessions of the RSE program (0 sessions, 1-3 sessions, 4 or more sessions)". Does it mean that some participants included into data analysis did not receive counseling at all? Since counselling is the core strategy of the RSE program, if the answer is yes, this subgroup of participants should be excluded from data analysis to examine predefined hypotheses.
3. Lines 257-262, page 9: The statistical results supporting these statements were not reported in the results section. I noted that mean and SD of PA barriers group and individual item were presented in Table 2; however, statistical analysis results on the differences were not reported either in Table 2 or the main texts.
4. Lines 301-303, page 10: The authors stated that "This study showed a significant negative longitudinal association between PA capability and PA behavior, indicating a decrease in frequencies of presence of



perceived PA capability barriers over time is associated with increase in PA behavior." In my opinion, actual capability and perceived capability are not the same concept, and thus cannot be used interchangeably.

5. Lines 351-353, page 11" The authors mentioned that "Insights into how PA barriers change over time can help to better understand how, when, and why PA counseling interventions, such as the RSE program, are successful in improving PA levels among people with physical disabilities and/or chronic diseases", which is overinterpret a bit to me. Particularly, I don't think this study can help understand "why" the RSE program is successful in improving PA levels, as no specific strategies/components in the RSE program were introduced and examined in this study.

6. About presentation of tables: For clarity, the Tables B1,B2, and B3 are better integrated with Tables 3 and 4.

7. Line 99, Page 3: to replace "three to six weeks" with "3-6 weeks" as the authors did for the same content in the other line in the same paragraph (line 102).

Is the submission properly formatted into Introduction, Yes Methods, Results, Discussion, Perspectives and References?	Overall originality <i>Excellent</i>
Stylistic level, text comprehensibility, use of standard English <i>Good</i>	Methodology, experimental design, technical soundness, do <i>Acceptable</i> the data support the conclusions
Statistical processing <i>Good</i>	Ethical aspects, informed consent, approval from institutional <i>Excellent</i> review board (ethics committee)

