**Step 2: Content Validity: Assessing if the Items Adequately Measure the Domain of Interest**

Nine experts completed the survey. Below I present along with the items, the I-CIV, CVR, clarity, as well as the recommendations for improvement.

Color code:

Green: I-CVI >.79; CVR >.33 (arbitrary here); clarity >2.5 (arbitrary here).

Yellow: I-CVI between .70 and .79; CVR >0; and clarity >2.

Grey: when the score is proximal to the orange area.

Red: when the score is below these cut-offs.

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|  | **I-CVI** | **CVR** | **Clarity** | **Recommendations for improvements** |
| items | I-CVI is computed as the number of experts giving a rating of “very relevant” for each item divided by the total number of experts. Value from 0 to 1.  ICV>.79 = relevant  ICV between .70 and .79 = needs revisions.  Below .70; should be eliminated | CVR = (Ne – N/2)/(N/2), where Ne is the number of panelists indicating an item as “essential” and N is the total number of panelists. CVR varies between -1 and +1. | Averaged value |  |

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| **Approach dimension** |  |  |  |  |
| 1.     Thinking about activities that require physical effort energizes me. | 0,444444444 | -0,333333333 | 2,55555556 | I gave a 2 rating to every item that uses "physical effort" because in our laboratory's own testing of these words, the interpretation varied widely between individuals. I suggest the authors consider a few other terms in addition to "physical effort". In our own program, this was usually interpretted as activities of a strenuous nature and wasn't inclusive of lighter and more moderate activities. |
|  |  |  |  |  |
| 2.     When I see an opportunity for exerting physical effort, I get excited right away. | 0,444444444 | -0,333333333 | 2,11111111 | This may be true by task-specific. I get excited right away when I see an opportunity to do X but not Y. The sentence does not account for this possibility. |
| 3.     I feel a strong desire to engage in tasks that require physical effort. | 0,777777778 | 0,555555556 | 2,66666667 | It would be helpful to see the instructions for this survey first, which were not included. This item is similar to items in the CRAVE scale (Stults-Kolehmainen, Blacutt et al., 2021) which specifies desires, wants, urges and cravings "in the moment" or "right now" or, for another version "in the past week". In this case, I believe you want to make the case about "tendency" so I believe the item might need a small modification or the instructions need to make that clear. The same apply for the other items. Also, from this point on (down to item 18), I gave "2" for essentiality only because an item seems redundant with an item above it. |
| 4.     I am always searching for opportunities to exert physical effort. | 0,666666667 | 0,333333333 | 2,44444444 | Too absolute. I am regularly search for or I tend to search for |
| 5.     If there is an opportunity to exert physical effort, I immediately seize it. | 0,333333333 | -0,555555556 | 2,22222222 | Too absolute. |
| 6.     I am always willing to engage in activities that involve physical effort. | 0,666666667 | -0,111111111 | 2,77777778 | Too absolute. |
| 7.     I am always open to trying new activities when they require physical effort. | 0,222222222 | -0,777777778 | 2,44444444 | Too absolute. |
| 8.     When I have an opportunity to engage in a physically demanding task, I can’t wait to do it. | 0,555555556 | -0,555555556 | 2,55555556 | I look forward to engage in… / This one is different, and I appreciate that. |
| 9.     I usually crave physical effort. | 0,666666667 | 0,555555556 | 2,66666667 | Not sure crave is an appropriate term here. / "usually" is a better addition here as well. / This looks to me more like a 'novelty-seeking' item rather than an 'approach' item |
| 10.  I exert a physical effort every chance I get. | 0,444444444 | -0,555555556 | 2,11111111 | Too absolute. Every chance? |
| 11.  I like to engage in activities that require physical effort. | 0,888888889 | 0,333333333 | 2,88888889 | To me, this indicates the respondent is intrinsically motivated toward physical effort, which is correlated with their tendency to approach it. |
| 12.  I find satisfaction in exerting physical effort. | 0,777777778 | 0,111111111 | 2,55555556 | To me, this indicates the respondent is intrinsically motivated toward physical effort, which is correlated with their tendency to approach it. |
| 13.  The idea of exerting physical effort is appealing to me. | 0,888888889 | 0,111111111 | 2,66666667 | In my opinion, for some sedentary people 'the idea of...' may be appealing, but they just don't have the willpower to do it |
| 14.  I really enjoy tasks that involve physical effort. | 0,777777778 | 0,333333333 | 2,77777778 | To me, this indicates the respondent is intrinsically motivated toward physical effort, which is correlated with their tendency to approach it. |
| 15.  I find tasks that require physical effort stimulating. | 0,444444444 | -0,333333333 | 2,33333333 | Stimulating as in what? I am not sure I fully understand this one. / To me, this indicates that the respondent finds physical effort energizing, which is correlated with their tendency to approach it. |
| 16.  When I engage in a task the requires physical effort, I know I will find it difficult to stop once I have started. | 0,333333333 | -0,555555556 | 2 | I usually find it difficult to stop once I started. / To me, this is indicates the respondent becomes immersed in physical effort when doing it, which is correlated with their tendency to approach it./ Be aware of the typo. In any case, this item is a bit confusing to me |
| 17.  The harder the physical effort, the more satisfied I am. | 0,333333333 | -0,555555556 | 2,66666667 | maybe more enjoyable? / To me, this indicates the respondent has graded satisfaction to physical effort when doing it, which is correlated with their tendency to approach it./ Seems similar to items in the PRETIE-Q scale - Ekkekakis. |
| 18.  Engaging in tasks requiring vigorous physical effort is appealing to me. | 0,666666667 | -0,111111111 | 2,77777778 |  |
| 19.  When I have a chance to sit or lay down, I do it right away. (**reverse item**) | 0,666666667 | 0,333333333 | 2,55555556 | I think something about disengaging from exercise is missing in the reverse items./ I like it. |
| 20.  When I have an opportunity to rest, I immediately seize it. (**reverse item**) | 0,555555556 | -0,111111111 | 2,11111111 | Not sure about immediately here./ Addition here of "rest" as oppossed to "sit or lay down" in 22. Good./ The respondent may wonder: well, do they mean if I am tired? In other words, the answer may depend on the current or hypothetical state of the volunteer |
| 21.  I like sitting or laying down. (**reverse item**) | 0,222222222 | -0,555555556 | 2,55555556 | Maybe resting rather than sitting or laying down. / To me, this indicates the respondent enjoys sitting or laying, which is negatively correlated with their tendency to approach it./Same as for item 3. This item could be construed as a state instead of a trait. |
| 22.  Exerting physical effort is not something I am looking for. (**reverse item**) | 0,555555556 | 0,111111111 | 2,55555556 | Something about enjoyment is missing./I like it. |

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| **Avoidance dimension** |  |  |  |  |
| 1.     When I have to exert some physical effort, I feel a strong desire to avoid it. | 1 | 0,148148148 | 2,55555556 | Maybe remove "strong". / My same comments as in the previous page about "physical effort". I think more variation needs provided so people understand you mean, exericse, running to the bus, moving around, getting up from a chair, etc etc. Perhaps this can be resolved in the instructions, which are not provided. |
| 2.     I avoid situations in which I will have to exert some physical effort. | 1 | 0,222222222 | 2,77777778 |  |
| 3.     I often have thoughts like “just don’t make any physical effort”. | 0,222222222 | 0,024691358 | 1,77777778 | Maybe "I don't like exerting physical effort" . / This may be my own bias, but I find it hard to imagine people having such thoughts. |
| 4.     When there is an opportunity, I immediately stop a physically effortful task. | 0,444444444 | 0,074074074 | 2,22222222 | Maybe remove "immediately" |
| 5.     I avoid situations where I may have to exert physical effort. | 1 | 0,172839506 | 2,77777778 | Nearly identical to a previous item (#2). |
| 6.     I exert physical effort only when there is no other alternative. | 0,888888889 | 0,197530864 | 2,66666667 |  |
| 7.     Exerting physical effort is not appealing to me. | 0,888888889 | 0,148148148 | 2,66666667 | I think one of these question should involve enjoy/not enjoy |
| 8.     I stay away from tasks that require physical effort. | 0,888888889 | 0,172839506 | 2,66666667 | From 8 to 18, there is redundancy apparently with items above these, so I marked with a 2. In some cases, the items are VERY similar and difficult to distinguish from each other unless there is a close examination. |
| 9.     I am always reluctant to engage in situations that demand physical effort. | 0,666666667 | 0,148148148 | 2,33333333 | Maybe remove "always" |
| 10.  When I have a chance to exert physical effort, I move away from it right away. | 0,333333333 | 0,024691358 | 2,11111111 | I aim to avoid the situation? |
| 11.  I find physical effort unappealing. | 0,777777778 | 0,12345679 | 2,66666667 |  |
| 12.  I do not find any satisfaction in exerting physical effort. | 0,888888889 | 0,098765432 | 2,77777778 | I do not find satisfaction in…/ To me, this indicates that people do not like physical effort, which is correlated with their tendency to avoid it. |
| 13.  Exerting physical effort is not my thing. | 0,666666667 | 0,098765432 | 2,66666667 | May be too language/culture specific. I think this can be removed. / To me, this indicates that people do not like physical effort, which is correlated with their tendency to avoid it./ "Not my thing" is a bit informal, but that might actually make it an ideal item for later analyses. I don't believe there is an item similar to this in the "Approach" section, however. |
| 14.  Before engaging in an effortful task, I always look for other alternatives. | 0,444444444 | 0,074074074 | 2,33333333 | I look for other / I like the idea of trying to replace physical effort with a less demanding alternative. Like instead of going grocery shopping, you order them online. |
| 15.  I avoid tasks that require physical effort. | 0,888888889 | 0,172839506 | 2,77777778 |  |
| 16.  I get upset when I have to engage in a physically effortful task. | 0,222222222 | 0,024691358 | 2,66666667 | Not sure about upset here. Maybe frustrated? / To me, this indicates that people do not like physical effort, which is correlated with their tendency to avoid it. |
| 17.  The harder the physical effort, the more dissatisfied I am. | 0,333333333 | 0,049382716 | 2,22222222 | the more unenjoyable I find it? / To me, this indicates that people have a graded disdain for physical effort, which is correlated with their tendency to avoid it. |
| 18.  Engaging in tasks requiring vigorous physical effort does not appeal to me at all. | 0,777777778 | 0,148148148 | 2,55555556 | Here the word "vigorous" is attached to the words "physical effort" and I am wondering if this was intentional or incidental. |
| 19.  I avoid tasks that require remaining sitted. (**reverse item**) | 0,333333333 | 0,074074074 | 2,33333333 | that require long periods of resting (e.g., sitting) |
| 20.  I dislike tasks that require sitting or lying down. (**reverse item**) | 0,333333333 | 0,074074074 | 2,77777778 | This is a little strange. I'd go with extended resting and/or being inactive and use sitting or lying as examples in brackets. /To me, this indicates that people do not like physical effort, which is correlated with their tendency to avoid it. |
| 21.  Sitting and laying down is not appealing. **(reverse item**) | 0,444444444 | 0,098765432 | 2,66666667 | Same as above |
| 22.  When possible, I avoid a task that involves primarily lying down. (**reverse item**) | 0,333333333 | 0,074074074 | 2,55555556 | I avoid extended periods of physical inactivity/rest / The idea of "rest" included in the previous Approach section, is not included here in the avoidance section. |

**Approach dimension**

**Potential items based on the I-CIV (+ checked the level of clarity):**

1. I feel a strong desire to engage in tasks that require physical effort.
2. I am always searching for opportunities to exert physical effort.
3. I am always willing to engage in activities that involve physical effort.
4. I usually crave physical effort.
5. I like to engage in activities that require physical effort.
6. I find satisfaction in exerting physical effort.
7. The idea of exerting physical effort is appealing to me.
8. I really enjoy tasks that involve physical effort.
9. When I have a chance to sit or lay down, I do it right away. (**reverse item**)

**Revision (in blue) of the yellow items (i.e., I-CIV<.70):**

- I feel a strong desire to engage in tasks that require physical effort

🡪 I tend to engage in tasks that require physical effort.

- I am always searching for opportunities to exert physical effort.

🡪 I tend to search for opportunities to exert physical effort.

- I am always willing to engage in activities that involve physical effort

🡪 I am often willing to engage in activities that involve physical effort.

- I usually crave physical effort

🡪 I tend to engage in physical effort.

- I find satisfaction in exerting physical effort

🡪 I usually find satisfaction in exerting physical effort.

- I really enjoy tasks that involve physical effort

🡪 I generally enjoy tasks that involve physical effort.

- When I have a chance to sit or lay down, I do it right away (reverse item)

🡪 When I have a chance to rest, I tend to do it right away.

**Additional items:**

A reverse item on “disengaging form effort”

🡪When I have an opportunity to disengage from physical effort, I usually seize it.

I have kept this one as one expert like this item:

🡪 Exerting physical effort is not something I am looking for. (**reverse item**).

**The items after this first procedure would be:**

1. I tend to engage in tasks that require physical effort.
2. I tend to search for opportunities to exert physical effort.
3. I am often willing to engage in activities that involve physical effort.
4. I tend to engage in physical effort.
5. I like to engage in activities that require physical effort.
6. I usually find satisfaction in exerting physical effort.
7. The idea of exerting physical effort is appealing to me.
8. I generally enjoy tasks that involve physical effort.
9. When I have a chance to rest, I tend do it right away (**reverse item**).
10. When I have an opportunity to disengage from physical effort, I usually seize it (**reverse item**).
11. Exerting physical effort is not something I am looking for (**reverse item**).

**Avoidance dimension**

As, you will see the avoidance items seem better evaluated than the approach items. We can discuss the possibility to write equivalent items in the approach dimension; e.g., “When I have to exert some physical effort, I feel a strong desire to avoid it” by “When I have to exert some physical effort, I feel a strong desire to approach it” or “I avoid situations in which I will have to exert some physical effort” by “I approach situations in which I will have to exert some physical effort”. Intuitively this seems a wrong approach, but Delphine I would be happy to have your comment on that.

1. When I have to exert some physical effort, I feel a strong desire to avoid it.
2. I avoid situations in which I will have to exert some physical effort.
3. I avoid situations where I may have to exert physical effort.
4. I exert physical effort only when there is no other alternative.
5. Exerting physical effort is not appealing to me.
6. I stay away from tasks that require physical effort.
7. I am always reluctant to engage in situations that demand physical effort.
8. I find physical effort unappealing.
9. I do not find any satisfaction in exerting physical effort.
10. Exerting physical effort is not my thing.
11. I avoid tasks that require physical effort.
12. Engaging in tasks requiring vigorous physical effort does not appeal to me at all.

**Revision of the yellow items (i.e., I-CIV<.70):**

- I am always reluctant to engage in situations that demand physical effort.

🡪 I am reluctant to engage in situations that demand physical effort.

- I find physical effort unappealing.

🡪 The idea of exerting physical effort is unappealing to me.

- Exerting physical effort is not my thing.

🡪 No suggestion to improve it, and some experts think it should be removed.

- Engaging in tasks requiring vigorous physical effort does not appeal to me at all.

🡪 Engaging in tasks requiring physical effort does not appeal to me

**The items after this first procedure would be:**

1. When I have to exert some physical effort, I usually feel a strong desire to avoid it.
2. I tend to avoid situations in which I ~~will~~ have to exert ~~some~~ physical effort.
3. I generally avoid situations where I may have to exert physical effort.
4. I usually exert physical effort only when there is no other alternative.
5. Exerting physical effort is not appealing to me.
6. I tend to stay away from tasks that require physical effort.
7. I am reluctant to engage in situations that demand physical effort.
8. The idea of exerting physical effort is unappealing to me.
9. I usually do not find any satisfaction in exerting physical effort.
10. I tend to avoid tasks that require physical effort.
11. Engaging in tasks requiring physical effort generally does not appeal to me

**IN SUM:**

**Decision to make:**

Do we use tend, usually, generally etc. or not?

Equilibration of the number of reserves items

Check that the contents are equivalent (e.g., if avoid is use than approach need to ne use)

**APPROACH:**

1. I tend to engage in tasks that require physical effort.
2. I tend to search for opportunities to exert physical effort.
3. I am often willing to engage in activities that involve physical effort.
4. I tend to engage in physical effort.
5. I like to engage in activities that require physical effort.
6. I usually find satisfaction in exerting physical effort.
7. The idea of exerting physical effort is appealing to me.
8. I generally enjoy tasks that involve physical effort.
9. When I have a chance to rest, I tend do it right away (**reverse item**).
10. When I have an opportunity to disengage from physical effort, I usually seize it (**reverse item**).
11. Exerting physical effort is not something I am looking for (**reverse item**).

**AVOIDANCE:**

1. When I have to exert some physical effort, I usually feel a strong desire to avoid it.
2. I tend to avoid situations in which I ~~will~~ have to exert ~~some~~ physical effort.
3. I generally avoid situations where I may have to exert physical effort.
4. I usually exert physical effort only when there is no other alternative.
5. Exerting physical effort is not appealing to me.
6. I tend to stay away from tasks that require physical effort.
7. I am reluctant to engage in situations that demand physical effort.
8. The idea of exerting physical effort is unappealing to me.
9. I usually do not find any satisfaction in exerting physical effort.
10. I tend to avoid tasks that require physical effort.
11. Engaging in tasks requiring physical effort generally does not appeal to me