**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.

The items selected at the end of this procedure. All the details can be found wihti the documents below.

Approach dimension:

1. I have a tendency 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 usually 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 do it right away (reverse item).
10. When I have an opportunity to disengage from physical effort, I immediately seize it (reverse item).
11. Exerting physical effort is not something I am looking for (reverse item).

Avoidance dimension:

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 often reluctant to engage in situations that demand physical effort.
8. I usually find physical effort unappealing.
9. I do not find any satisfaction in exerting physical effort.
10. I avoid tasks that require physical effort.

Main remarks:

* No reverse items selected in the avoidance dimension.
* 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”

In other words, currently, the two dimensions seem unweighted.

I would be happy to have your advice on these. Do we delete the reverse items from the approach dimension or do we add reverse items on the avoidance dimensions? Do we try to use the same items in the approach and avoidance dimensions, while only changing the wording “approach” and “avoid”?

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.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **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 |  |
| **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. |
| **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. |

**Based on these results:**

**Approach dimension**

1. ~~Thinking about activities that require physical effort energizes me.~~
2. ~~When I see an opportunity for exerting physical effort, I get excited right away.~~
3. I feel a strong desire to engage in tasks that require physical effort.
4. I am always searching for opportunities to exert physical effort.
5. ~~If there is an opportunity to exert physical effort, I immediately seize it.~~
6. I am always willing to engage in activities that involve physical effort.
7. ~~I am always open to trying new activities when they require physical effort.~~
8. ~~When I have an opportunity to engage in a physically demanding task, I can’t wait to do it.~~
9. I usually crave physical effort.
10. ~~I exert a physical effort every chance I get.~~
11. I like to engage in activities that require physical effort.
12. I find satisfaction in exerting physical effort.
13. The idea of exerting physical effort is appealing to me.
14. I really enjoy tasks that involve physical effort.
15. ~~I find tasks that require physical effort stimulating.~~
16. ~~When I engage in a task the requires physical effort, I know I will find it difficult to stop once I have started.~~
17. ~~The harder the physical effort, the more satisfied I am.~~
18. Engaging in tasks requiring vigorous physical effort is appealing to me. (but not essential; so I will delete this item associated with vigorous)
19. When I have a chance to sit or lay down, I do it right away. (**reverse item**)
20. ~~When I have an opportunity to rest, I immediately seize it. (~~**~~reverse item~~**~~)~~
21. ~~I like sitting or laying down. (~~**~~reverse item~~**~~)~~

So, we have 9 potential items:

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

1. I feel a strong desire to engage in tasks that require physical effort 🡪 I have a tendency to engage in tasks that require physical effort.
2. I am always searching for opportunities to exert physical effort. 🡪 I tend to search for opportunities to exert physical effort.
3. I am always willing to engage in activities that involve physical effort 🡪 I am often willing to engage in activities that involve physical effort.
4. I usually crave physical effort 🡪 I usually tend to engage in physical effort.
5. I like to engage in activities that require physical effort (no revision needed).
6. I find satisfaction in exerting physical effort 🡪 I usually find satisfaction in exerting physical effort.
7. The idea of exerting physical effort is appealing to me (no revision needed).
8. I really enjoy tasks that involve physical effort 🡪 I generally enjoy tasks that involve physical effort.
9. 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 do it right away.

Additional items:

1. + one reverse item on “disengaging form effort”. When I have an opportunity to disengage from physical effort, I immediately seize it.
2. I have kept this one as one expert like this item: Exerting physical effort is not something I am looking for. (**reverse item**).

Therefore, the items after this first procedure:

1. I have a tendency 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 usually 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 do it right away (**reverse item**).
10. When I have an opportunity to disengage from physical effort, I immediately seize it (**reverse item**).
11. Exerting physical effort is not something I am looking for (**reverse item**).

**Avoidance dimension**

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 often have thoughts like “just don’t make any physical effort”.~~
4. ~~When there is an opportunity, I immediately stop a physically effortful task.~~
5. I avoid situations where I may have to exert physical effort.
6. I exert physical effort only when there is no other alternative.
7. Exerting physical effort is not appealing to me.
8. I stay away from tasks that require physical effort.
9. I am always reluctant to engage in situations that demand physical effort.
10. ~~When I have a chance to exert physical effort, I move away from it right away.~~
11. I find physical effort unappealing.
12. I do not find any satisfaction in exerting physical effort.
13. Exerting physical effort is not my thing.
14. ~~Before engaging in an effortful task, I always look for other alternatives.~~
15. I avoid tasks that require physical effort.
16. ~~I get upset when I have to engage in a physically effortful task.~~
17. ~~The harder the physical effort, the more dissatisfied I am.~~
18. Engaging in tasks requiring vigorous physical effort does not appeal to me at all.
19. ~~I avoid tasks that require remaining sitted. (~~**~~reverse item~~**~~)~~
20. ~~I dislike tasks that require sitting or lying down. (~~**~~reverse item~~**~~)~~
21. ~~Sitting and laying down is not appealing.~~ **~~(reverse item~~**~~)~~
22. ~~When possible, I avoid a task that involves primarily lying down. (~~**~~reverse item~~**~~)~~

So, we have 12 potential items:

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):

Four potential items need revision.

* I am always reluctant to engage in situations that demand physical effort 🡪 I am often reluctant to engage in situations that demand physical effort.
* I find physical effort unappealing 🡪 I usually find physical effort unappealing.
* Exerting physical effort is not my thing 🡪 lot of critiques so the item is be deleted
* Engaging in tasks requiring vigorous physical effort does not appeal to me at all 🡪 the distinction between vigorous is not anymore implemented in the approach dimension, so this item is deleted.

Therefore, the items after this first procedure:

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 often reluctant to engage in situations that demand physical effort.
8. I usually find physical effort unappealing.
9. I do not find any satisfaction in exerting physical effort.
10. I avoid tasks that require physical effort.