



Behavioural Regulation in Exercise Questionnaire (BREQ-2) Reliability and Validity of a German Translation

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The Behavioural Regulation in Exercise Questionnaire (BREQ-2, Markland & Tobin, 2004) is a widely used measure of intrinsic, identified, introjected, and external forms of regulation as well as amotivation for exercise behavior. It is based on self-determination theory (Deci & Ryan 1985) and measures the behavioural regulation continuum in the context of exercise.

Purpose of the presented analyses was to test the reliability and validity of a German translation of the questionnaire.

Methods

Translation: The original questionnaire was separately translated by two bilingual native German speakers. Divergent results were compared and a consensual translation generated.

Study 1:

A convenience sample of 401 participants (164 men, 237 women, age: $M = 28.3$, $SD = 11.9$) answered the questionnaire as well as additional questions on exercise behaviour.

Study 2:

395 participants (317 men, 78 women, age: $M = 39.1$, $SD = 9.3$) answered the questionnaire as part of a health and fitness promotion program (Leyk et al. 2014) at an administrative unit of the Bundeswehr.

EXERCISE REGULATIONS QUESTIONNAIRE (BREQ-2)

Age: _____ years Sex: male female (please circle)

WHY DO YOU ENGAGE IN EXERCISE?

We are interested in the reasons underlying peoples' decisions to engage, or not engage in physical exercise. Using the scale below, please indicate to what extent each of the following items is true for you. Please note that there are no right or wrong answers and no trick questions. We simply want to know how you personally feel about exercise. Your responses will be held in confidence and only used for our research purposes.

	Not true for me	Sometimes true for me	Very true for me
1 I exercise because other people say I should	0	1	2 3 4
2 I feel guilty when I don't exercise	0	1	2 3 4
3 I value the benefits of exercise	0	1	2 3 4
4 I exercise because it's fun	0	1	2 3 4
5 I don't see why I should have to exercise	0	1	2 3 4
6 I take part in exercise because my friends/family/partner say I should	0	1	2 3 4
7 I feel ashamed when I miss an exercise session	0	1	2 3 4
8 It's important to me to exercise regularly	0	1	2 3 4
9 I can't see why I should bother exercising	0	1	2 3 4

BREQ-2 Gründe Sport zu treiben

Abschließen interessieren uns die Gründe warum Menschen sich dafür oder dagegen entscheiden Sport zu treiben. Bitte lesen Sie sich die folgenden Aussagen durch und geben Sie an wie gut jede Aussage auf Sie persönlich zutrifft.

Es gibt dabei keine richtigen oder falschen Antworten und keine Fangfragen. Uns interessiert einfach nur Ihre persönliche Meinung zum Sporttreiben. Ihre Antworten werden vertraulich behandelt und nur zu Forschungszwecken verwendet.

	völlig nicht auf mich zu	etwas	etwas	völlig
	1	2	3	4 5
1. Ich treibe Sport, weil andere Leute sagen, ich sollte es machen.	1	2	3	4 5
2. Ich habe ein schlechtes Gewissen, wenn ich keinen Sport treibe.	1	2	3	4 5
3. Ich schätze den Nutzen, den es hat, Sport zu treiben.	1	2	3	4 5
4. Ich treibe Sport, weil es mir Spaß macht.	1	2	3	4 5
5. Es gibt keinen Grund, warum ich Sport treiben sollte.	1	2	3	4 5
6. Ich treibe Sport, weil meine Freunde/Familie/Partner es wollen.	1	2	3	4 5
7. Es ist mir peinlich, wenn ich eine Trainingseinheit verpasse.	1	2	3	4 5
8. Es ist für mich wichtig regelmäßig zu trainieren.	1	2	3	4 5
9. Ich sehe nicht ein, warum ich Sport treiben sollte.	1	2	3	4 5
10. Meine Trainingseinheiten machen mir Spaß.	1	2	3	4 5
11. Ich trainiere, weil es anderen nicht gefällt, wenn ich es nicht mache.	1	2	3	4 5
12. Ich sehe keinen Sinn darin Sport zu treiben.	1	2	3	4 5
13. Ich komme mir wie ein Versager vor, wenn ich eine zeitsparende nicht trainiert habe.	1	2	3	4 5
14. Ich denke es ist wichtig sich zu bemühen regelmäßig Sport zu treiben.	1	2	3	4 5
15. Ich treibe gern Sport.	1	2	3	4 5
16. Ich fühle mich von meinen Freunden/ meiner Familie unter Druck gesetzt Sport zu treiben.	1	2	3	4 5
17. Ich werde unruhig, wenn ich nicht regelmäßig trainiere.	1	2	3	4 5
18. Es bereitet mir Freude und Zufriedenheit Sport zu treiben.	1	2	3	4 5
19. Ich denke Sport zu treiben ist Zeitverschwendung.	1	2	3	4 5

Results

Reliability

Scales show a good overall reliability. Only introjected regulation had a fairly low α -value.

Cronbach's-Alphas

Subscale	Study 1	Study 2
Amotivation	.87	.77
External Regulation	.85	.77
Introjected Regulation	.62	.59
Identified Regulation	.76	.64
Intrinsic Regulation	.90	.92

Relative Autonomy Index (RAI)

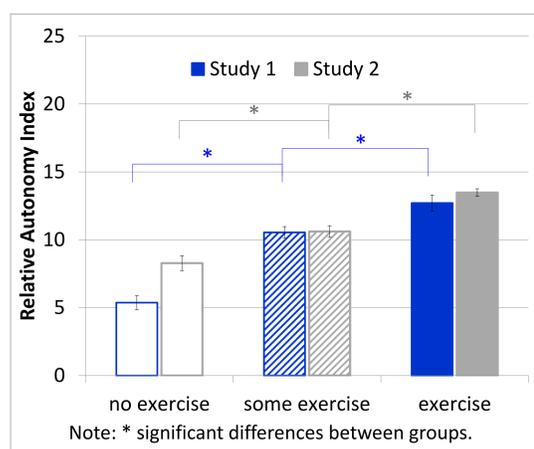
RAI indicates the degree to which participants feel self-determined. It is a weighted sum score that can be calculated if the subscale scores conform to a simplex pattern. The correlation matrix shows this pattern for both data sets, i. e. adjacent subscales show stronger positive correlations compared to non-adjacent subscales.

	1	2	3	4	5				
Amotivation (1)	1.00								
External Regulation (2)	.50	.43	1.00						
Introjected Regulation (3)	.02	-.06	.36	.26	1.00				
Identified Regulation (4)	-.53	-.42	-.14	-.23	.41	.34	1.00		
Intrinsic Regulation (5)	-.58	-.43	-.30	-.29	.10	.09	.66	.62	1.00

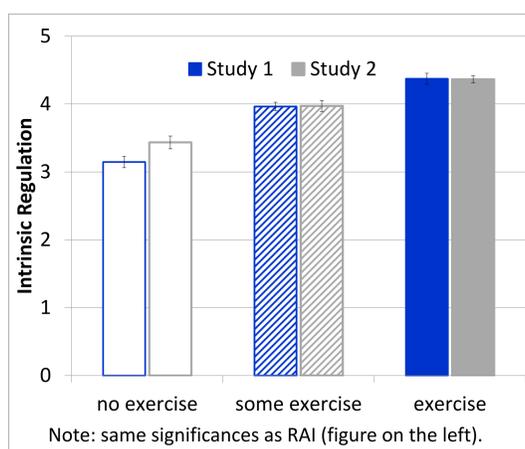
Note: font color indicates study: black = study 1, grey = study 2; r-values < .1 are not significant, $r = .1$, $p < .05$, all others $p < .001$.

Validity

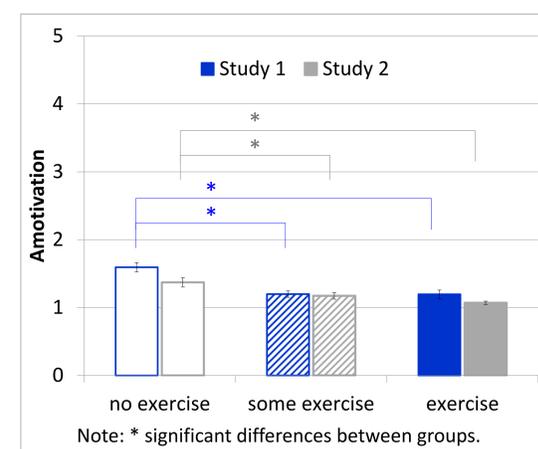
In order to test the validity participants were separated into three groups based on the amount of exercise per week (no exercise: never or seldom, some exercise: 1 - 3 times a week, exercise: more than 3 times a week). Groups significantly differed in intrinsic motivation as well as RAI scores, with more weekly exercise corresponding to a higher degree of self-determination.



More exercise corresponds to higher RAI.



More exercise corresponds to higher intrinsic motivation.



No exercise group scored higher on amotivation.

Discussion

German translation of the BREQ-2 showed satisfactory reliability.

Construct and external validity could be demonstrated in both studies:

Participants in groups that exercise more score higher on intrinsic motivation and overall degree of self-determination. Inactive participants scored higher on amotivation compared to exercise groups, which did not significantly differ.

References

- Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
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- Markland, D. & Tobin, V. (2004). A modification of the Behavioral Regulation in Exercise Questionnaire to include an assessment of amotivation. *Journal of Sport and Exercise Psychology*, 26, 191-196.