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Running head: COGNITIVE TRIAD INVENTORY

Cognitive Triad Inventory (CTI): Psychometric properties and factor structure of the German translation

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translation

Abstract

A central component of Beck, Rush, and Shaw's (1979) cognitive theory of depression is the

cognitive triad (negative view of self, world, and future) measurable with the Cognitive Triad

Inventory (CTI). This study examined the psychometric properties and factor structure of the

German CTI in a sample of 796 German volunteers. The study provides evidence for the

reliability and validity of the German CTI and of independent positive and negative elements of

the cognitive triad. Furthermore, results emphasize methodological above conceptual problems in

Beck et al.'s theory (1979) as cause for instabilities in the CTI's factor structure across different

studies.

Key words: psychometrics; factor analysis; depression; cognitive model; cognitive triad

1. Introduction

Depression is ranked as the fourth leading cause of disease burden, accounting for almost 12% of disability worldwide (Ustun, Ayuso-Mateos, Chatterji, Mathers, & Murray, 2004), and is expected to become the second most disabling disorder by 2010. One widely accepted and empirically supported theory explaining the development and maintenance of depression was developed by Beck, Rush, and Shaw (1979). The underlying idea of this theory is that depressed individuals hold negative views of themselves, the world, and the future. These negative views are subsumed in the so-called cognitive triad. The role of the cognitive triad in Beck's model is to activate other symptoms of depression. For example, the negative view of the self is believed to lead to an underestimation of the own skills and to low self-esteem in depressed individuals. The cognitive triad has been empirically linked to depression in many studies (for reviews, see Haaga, Dyck, & Ernst, 1991). Despite the significance of the cognitive triad to the development and maintenance of depression, no standardized assessment instrument to measure them has been made available in German thus far. To close this gap, this study translated the widely used Cognitive Triad Inventory (CTI), developed by Beckham, Leber, Watkins, Boyer, and Cook (1986), and evaluated it with a nonclinical German sample.

The original American CTI version was studied initially on 54 depressed outpatients (Beckham et al., 1986). Beckham et al. (1986) dropped all items from a first form of the CTI with an item-scale correlation of $r < .25$ with their own scale or that correlated higher with another subscale. The final version of the American CTI shows good to excellent internal consistencies ($\alpha = .91$ for view of self, $\alpha = .81$ for view of world, $\alpha = .93$ for view of future, $\alpha = .95$ for total scale), and the CTI total scale correlates with the Beck Depression Inventory (BDI) to $r = .77$. Moreover, the three CTI scales demonstrate mediate to high inter-correlations (self – world: $r = .71$, self – future: $r = .70$, world – future: $r = .66$; Anderson & Skidmore, 1995).

Beckham et al. (1986) constructed the CTI theory driven and split the inventory in three scales but did not evaluate the structure empirically. Two other studies (Anderson & Skidmore, 1995; McIntosh & Fisher, 2000) tested the structure of the CTI in nonclinical samples of university students but were both unable to confirm the 3-factor model. The study by McIntosh and Fischer (2000) found only one factor in their analysis. Anderson and Skidmore (1995), however, report positively and negatively phrased items of each scale loaded on separate factors in their factor analysis. Additionally, negatively phrased items of view of self loaded on both the negatively phrased view of world and future factors, creating a 5-factor model. Andersen and Skidmore (1995) conclude that the factorial validity of Beck's model is correct but that in addition item phrasing (negative vs. positive) is significant for the factor structure of the CTI. Therefore, a 6-factor structure seems possible for the CTI.

The aims of this study are to translate the CTI, to validate the German CTI version, and to test the quality of the German items and factor structure. Following Beckham et al. (1986), it can be expected that all items demonstrate a correlation with their CTI scale of at least .25 and smaller correlations with all other scales (item-scale correlation). To test the factor structure of the German CTI, confirmatory factor analyses for a 1-factor, 3-factor, a 5-factor, and a 6-factor model of the German CTI will be tested. Internal consistencies of the CTI scales and the total scale as well as the four-week retest reliabilities will be calculated to identify the reliability of the German CTI version. Finally, criterion validity will be established by calculating Pearson correlations between the German CTI version and the German Center for Epidemiological Studies – Depression Scale (CES – D, Hautzinger & Bailer, 1993) administered at the same time and four weeks later, respectively.

2. Method

2.1. Participants

Volunteers for the study were 796 students, staff, and faculty at a university in the Southwest of Germany. Volunteers were given course credits or participated in a drawing to win one of five monetary prices (EURO 100) as compensation for participating in the study. Females comprised 80% ($n = 638$) of the sample. Age ranged from 18 to 52 years, with a mean age of 23.71 ($SD = 6.57$) years. Of this sample, 18.8% ($n = 150$) scored above the cutoff point of a self-report instrument to assess depressive symptoms. At a second measurement four weeks later, 631 of these individuals participated again.

2.2. Measures

2.2.1. Cognitive Triad Inventory (CTI)

The CTI consists of 36 items (Beckham et al., 1986). View of self (e.g., "I can do a lot of things well."), the world (e.g., "The world is a very hostile place."), and the future (e.g., "There is nothing to look forward to in the years ahead.") are each measured with ten items. The remaining six items are filler items that are not scored (item numbers: 1, 2, 4, 7, 14, 22). The items are phrased in both positive and negative directions. Individuals are asked to rate how the item applies to them on a 7-point Likert scale from 1 ("total agree") to 7 ("totally disagree"). Before calculate the scores for the CTI scales by summing, all items are poled in a way that higher scores represent positive views and low scores represent negative views.

2.2.2. Center for Epidemiological Studies – Depression Scale (CES-D)

The Center for Epidemiological Studies – Depression Scale (CES-D) was developed as a quick, economical screening instrument for measuring depressive symptoms within the last week (Hautzinger & Bailer, 1993). The CES-D consists of 20 items (e.g., "I was bothered by things that usually don't bother me."). The frequency of symptoms is rated on a four-point scale ranging from 0 to 3, with higher numbers indicating higher frequency of occurrence. Item scores are summed, creating a range from 0 to 60. As score of ≥ 23 is seen as within the clinical range. The

CES-D showed an excellent internal consistency (α = .90) and a good four-week retest-reliability (r = .53, $p \leq$ .01) in our study.

2.2.3. Cognitive Error Questionnaire (CEQ)

The Cognitive Error Questionnaire (CEQ, Pössel, 2008) consists of 24 5-point Likert items to measure so-called cognitive errors. These cognitive errors are errors of logic in the information processing and are seen as the reason for the cognitive triad in depressed individuals (Beck et al., 1979). Although the CEQ includes the subscales "catastrophizing," "overgeneralization," "personalization," and "selective abstraction," all item values are summed to a total score where higher scores represent greater endorsement of cognitive errors. The CEQ showed good internal consistency (α = .62 for catastrophizing, α = .73 for overgeneralization, α = .64 for personalization, α = .59 for selective abstraction, α = .87 for the total scale) in our study. The four-week retest-reliabilities were satisfactory to very good (r = .70 for catastrophizing, r = .69 for overgeneralization, r = .69 for personalization, r = .69 for selective abstraction, r = .79 for the total scale) and significant ($p \leq$ .01).

2.3 Procedure

In small group sessions, participants completed the CTI and the CES-D as part of a larger questionnaire package. Participants were asked to participate in another group session to fill out the same questionnaires again four weeks later. The study was approved by the IRB of the University of Tübingen.

2.4 Translation of the CTI

The American version of the CTI was adapted and translated according to guidelines that are widely accepted for the successful translation of instruments in cross-cultural research (Brislin, 1970). While one bilingual translator, who was a native German speaker, individually translated the questionnaire from the English-language original into German, another bilingual

person translated this German CTI version back into English. Differences in the original and the back-translated versions were discussed and resolved by joint agreement of both translators.

3. Results

As part of the item analysis means, standard deviations, and item-scale correlations for each item with the three CTI scales following Beckham et al. (1986) and the total scale are calculated (see Table 1). All but item 12 demonstrated an item-scale correlation with their scale of $r \geq .25$ and smaller correlations with the other two scales. Item 12 demonstrates the highest correlations with the *view of future* ($r = .57$), not like expected with the *view of world* ($r = .50$). However, to keep the German CTI version as similar as possible to the American original, all following analyses were calculated with item 12 as part of the scale *view of world*.

A number of studies have investigated the factor structure of the American CTI, proposing different factor models. In order to test how well these models applied to the German CTI, confirmatory factor analyses with the maximum likelihood method were performed using AMOS 7.0. Goodness of fit was tested with χ^2. However, as χ^2 is known to increase with sample size and degrees of freedom, the χ^2 was complemented by χ^2/df, root mean squared of the residuals (RMSEA; Steiger & Lind, 1980), Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) and Comparative Fit Index (CFI; Bentler, 1990) indices. While a full explanation of these indices and their limitations is beyond the scope of this article, a short description seems necessary: Statistically nonsignificant values of χ^2 and values of χ^2/df that are close to 1 or smaller indicate a good fit of the model to the data. A RMSEA value of 0 indicated a perfect model fit; a value of $\leq$ .05 is conventionally regarded as an indicator of a good model fit; and a value of $\leq$ .08 is seen as acceptable (Hu & Bentler, 1999). TLI and CFI values of $\geq$ .95 indicate a good model fit and values of $\geq$ .80 are regarded as acceptable (Hu & Bentler, 1999). Finally, Akaike Information

Criterion (AIC; Akaike, 1974) was calculated to compare different factor models. AIC is a goodness of fit measure that adjusts model chi-square to penalize for model complexity. AIC reflects the discrepancy between model-implied and observed covariance matrices. Comparing different factor models, the lower AIC reflects the model with the better fit to the data (Akaike, 1974). Based on high inter-correlations between the American CTI scales (Anderson & Skidmore, 1995), the factors in the 3-, 5-, and 6-factor models were allowed to correlate (see Table 2).

Results of the confirmatory factor analyses showed that none of three calculated goodness of fit indices for McIntosh and Fisher's (2000) 1-factor model was within the acceptable range. For the theory-driven 3-factor model only the RMSEA was in the acceptable range (1 of 3 goodness of fit indices). For Anderson and Skidmore's (1995) 5-factor model the RMSEA and the CFI was acceptable (2 of 3 goodness of fit indices). Finally, results of the 6-factor model showed that all three goodness of fit indices were in the acceptable range. Beyond this, the AIC was better suited for the 6-factor model than for the other factor models. In sum, the 6-factor model fits the data better than the other models[1].

To determine the reliability of the German CTI version, internal consistencies, four-week retest-reliability of the scales and the total scale, and attenuation corrected and uncorrected inter-correlations between the six CTI scales and between the CTI scales and the total scale were calculated (see Table 3). To explore the concurrent and predictive validity, correlations between CTI scales and CES-D and CEQ scales administered at the same time as well as four weeks later were calculated.

4. Discussion

The aim of this study was to translate and evaluate the American Cognitive Triad Inventory (Beckham et al., 1986) in order to obtain a reliable and valid German version of the

CTI to measure this important element of Beck et al.'s (1979) theory explaining the development and maintenance of depression.

As expected, the item analysis reveals similar psychometric properties of the German CTI items compared to the American CTI. All but item 12 demonstrate the highest item-scale correlation with their scale. Item 12 correlates the highest with the view of future ($r = .57$) and not like expected with the view of world ($r = .50$). Nevertheless, the difference is only marginal and as Beckham et al. (1986) do not report single item-scale correlations, it is not possible to discover whether this item correlates high on view of future in the American CTI version, too.

The confirmatory factor analyses demonstrated that the proposed 6-factor model fits the data of the German CTI best. This factor structure is supported by the inter-correlations, revealing only low to moderate correlations between the six scales of the German CTI. Furthermore, the high correlations between the six subscales and the total scale emphasize the important contribution of each scale to the cognitive triad. Following Anderson and Skidmore's (1995) interpretation of their results, this model consists not only of the scales view of self, view of world, and view of future, but it separates each of these scales into negatively and positively worded items. This result is especially significant for three reasons: Firstly, it provides evidence for Beck's model that considers view of self, view of world, and view of future to be associated but distinct constructs. Secondly, although Anderson and Skidmore's (1995) factor structure could not be perfectly replicated, findings in both studies are similar enough to point to equivalent cognitive structures in American and German individuals. Therefore, the results support generalizability of Beck's model across different cultures. Finally, the fact that positively and negatively worded items of the CTI load on separate factors in both studies might be more than a methodical artifact. In their structural model of positive and negative states of mind Schwartz and Garamoni (1986) propose that both positive and negative elements are independent of each other and that both contribute to the mental health. Several empirical studies provide

evidence supporting this hypothesis with regard to attitudes (Pössel, 2003), thoughts (Kendall, 1992), and emotions (Garamoni, Reynolds, Thase, Frank, & Fasiczka, 1992). Thus, it seems self-evident that the same might be true for the cognitive triad.

Nevertheless, although the 6-factor model fits the data of the German CTI better than the other three tested models, the goodness of fit indices of this model are only in the acceptable range. Finally, the attenuation corrected inter-correlations show very high associations between the six factors under the condition of perfect reliability. All these data provide evidence that the instability in the factor structure of the CTI across different studies (Anderson & Skidmore, 1995; Beckham et al., 1986; McIntosh & Fischer, 2000) is caused more by methodological factors than by problems with the underlying construct.

The four-week retest-reliabilities of the six scales were not only good but also more stable than cognitive errors and depressive symptoms. Finally, the concurrent and predictive validity of the German 6-scale CTI is satisfactory and similar to the concurrent validity of the American CTI total scale (Beckham et al., 1986). Beyond this, the correlation of the German CTI with the German CES-D is similar to correlations of other instruments assessing cognitive elements of Beck et al.'s theory (1979) with self-reported depression. For example, the American Automatic Thoughts Questionnaire – Revised (ATQ-R) total scale (Kendall, Howard & Hays, 1989) correlates with the BDI with $r = -.53$ and the German ATQ-R positive and negative scales correlate with the German CES-D between .71 and -.11 in a sample of the general population and between .72 and -.34 in a psychiatric sample (Pössel, Seemann, & Hautzinger, 2005).

Comparing the retest-reliabilities and validity scores of the six CTI scales with each other, the positive factors are numerical lower than the negative factors. This can not be explainable by fewer items loading on positive factors (view of self: 4; view of world: 5; view of future: 5) compared to negative factors (view of self: 6 items; view of world: 5 items; view of future: 5 items). The same is observable in the correlations between the positive and negative scales of the

ATQ-R and depression measures in different populations. The positive ATQ-R scales correlate

lower with self-report instruments to measure depression and anxiety than the negative ATQ-R

scales in adults and adolescents of the general population as well as in an adult psychiatric sample

(Huffziger, et al., 2008; Pössel et al., 2005). Summarized, positive cognitive constructs correlate

lower with mental health than negative constructs. This fact can be interpreted as further evidence

for the independence of positive and negative cognitions as proposed by the structural model of

positive and negative states of mind (Schwartz & Garamoni, 1986) in general and of positive and

negative elements of the cognitive triad in particular.

Like every study, this one has limitations: First, the use of a nonclinical sample can be

seen as a limitation. It might be that the German CTI would demonstrate different psychometric

properties when administered to psychiatric patients rather than our nonclinical university

sample. Based on an evaluation study of the German ATQ-R (Pössel et al., 2005), it can be

expected that the psychometric properties in psychiatric samples will turn out to be better than in

a sample of the general population. Therefore, using a nonclinical sample is likely to produce a

bias against the CTI. This might explain the slightly lower inter-correlations between the German

CTI scales and their internal consistencies compared with Beckham et al.'s (1986) data, which

are based on a psychiatric outpatient sample. On the other hand, contrary to the other studies

using a nonclinical sample (Anderson & Skidmore, 1995; McIntosh & Fischer, 2000) the 3-factor

structure could be confirmed, which is contrary to McIntosh and Fischer's argument that their 1-

factor model might result from differences in the thinking of nondepressed and depressed

individuals. Nonetheless, the evaluation of the German CTI should be replicated with a depressed

sample to overcome these problems.

Second, the discriminatory validity of the German CTI was not tested. To do this would

be especially interesting as the specificity of the cognitive triad in adults could be tested at the

same time. This might be important as Beck et al. (1979) proposed the cognitive triad is specific

for depression but no study with an adult sample focused on this issue up to now.

In summary, most results confirm that the German CTI is a reliable and valid instrument.

Therefore, the German CTI can be used to measure the cognitive triad of Beck et al.'s (1979)

theory explaining the development and maintenance of depression. This is of importance as the

cognitive triad is not only an important element of Beck's theory but it has been empirically

linked to depression in many studies (for reviews, see Haaga, Dyck, & Ernst, 1991). Besides

evaluating the German CTI, the study provided some evidence for the existence of independent

positive and negative elements of the cognitive triad. Consistent with the literature, however, the

study found some evidence for instability of the CTI's factor structure. Based on the empirical

evidence it can be argued that the instability in the factor structure of the CTI is likely to be

caused rather by methodological than by conceptual problems in Beck et al.'s model (1979).

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Table 1

Descriptive Statistics and Item-Scale Correlations.

Item	*M*	*SD*	VS	VW	VF	TS
3. Most people are friendly and helpful.	4.73	1.21	.27	**.51**	.26	.39
5. I am a failure.	6.16	1.25	**.77**	.50	.59	.73
6. I like to think about the good things that lie ahead for me.	5.74	1.20	.40	.38	**.62**	.53
8. The people I know help me when I need it.	5.97	0.97	.29	**.55**	.29	.43
9. I expect that things will be going very well for me a few years from now.	5.37	1.10	.50	.40	**.70**	.61
10. I have messed up almost all the important relationships I have ever had.	5.80	1.37	**.55**	.49	.37	.55
11. The future holds a lot of excitement for me.	5.41	1.09	.13	.13	**.34**	.23
12. My daily activities are fun and rewarding.	5.29	1.04	.46	**.50**	.57	.58
13. I can't do anything right.	5.93	1.20	**.75**	.48	.59	.71
15. There is nothing left in my life to look forward to.	4.89	1.54	.03	.29	**.34**	.26
16. My current problems or concerns will always be there in one way of another.	3.10	1.40	.43	.38	**.45**	.49
17. I am as adequate as other people I know.	5.15	1.33	**.60**	.34	.34	.50
18. The world is a very hostile place.	4.93	1.58	.33	**.56**	.34	.46
19. There is no reason for me to be hopeful about my future.	5.88	1.29	.46	.47	**.69**	.62
20. The important people in my life are helpful and supportive.	6.12	0.90	.27	**.55**	.32	.43
21. I hate myself.	6.18	1.29	**.78**	.49	.61	.73
23. Bad things happen to me a lot.	5.33	1.43	.44	**.60**	.36	.54

Item	M	SD	VS	VW	VF	TS
24. I have a spouse of friend who is warm and supportive.	4.98	2.07	.23	**.42**	.19	.32
25. I can do a lot of things well.	5.50	1.00	**.62**	.25	.38	.50
26. My future is simply too awful to think about.	6.28	1.06	.51	.50	**.69**	.65
27. My family doesn't care what happens to me.	6.16	1.44	.21	**.44**	.17	.32
28. Things will work out well for me in the future.	5.34	1.00	.56	.42	**.73**	.66
29. I am guilty of a great many things.	4.85	1.54	**.64**	.46	.34	.57
30. No matter what I do, others make if difficult for me to get what I need.	5.58	1.22	.43	**.62**	.42	.56
31. I am a worthwhile human being.	5.77	1.09	**.71**	.38	.52	.63
32. There is nothing to look forward to in the years ahead.	6.13	1.12	.52	.51	**.77**	.69
33. I like myself.	5.58	1.19	**.78**	.45	.59	.71
34. I am faced with many difficulties.	3.54	1.44	.24	**.52**	.21	.37
35. I have serious flaws in my character.	4.74	1.51	**.60**	.41	.34	.53
36. I expect to be content and satisfied as the years go by.	5.39	1.41	.18	.19	**.43**	.30

Note. VS = view of self; VW = view of world; VF = view of future; TS = total scale. The filler items (numbers: 1, 2, 4, 7, 14, 22) are not included in this table. Bold numbers represent the item-scale correlation between items and the scale they belong to following Beckham et al. (1986).

Table 2

Results of the Confirmatory Factor Analyses for the 1-, 3-, 5-, and 6-Factor Models Performed

with the Total Sample, and Separated by Gender and CES-D Cutoff Score.

	χ^2	df	χ^2/df	RMSEA	TLI	CFI	AIC
1-factor model	2650.23***	376	7.05	.087	.652	.719	2888.23
3-factor model	2167.95***	373	5.81	**.078**	.723	.778	2411.95
5-factor model	1908.19***	366	5.21	**.073**	.758	**.809**	2166.19
6-factor model	1615.40***	361	4.48	**.066**	**.800**	**.845**	1883.40

Note. *** *p* < .001. Bold numbers represent an acceptable fit model; CES-D = Center for

Epidemiological Studies – Depression Scale; RMSEA = root mean squared of the residuals; TLI

= Tucker-Lewis Index; CFI = Comparative Fit Index; AIC = Akaike Information Criterion.

Table 3

Descriptive Statistics, Inter-Correlation, Attenuation Corrected Inter-Correlation, Internal Consistencies, Four-Week Retest-Reliability of the Six Factors and the Total Score for the Total Sample.

	Mean	SD	α	nVS	nVW	nVF	pVS	pVW	pVF	TS
nVS	33.57	6.06	.83	**.89**	.59	.53	.64	.45	.44	.86
nVW	25.47	4.70	.66	.80	**.82**	.42	.29	.41	.27	.71
nVF	26.21	3.75	.47	.85	.75	**.80**	.39	.33	.48	.70
pVS	21.96	3.64	.78	.80	.40	.64	**.86**	.42	.52	.73
pVW	27.04	3.87	.51	.69	.71	.67	.67	**.82**	.46	.68
pVF	27.17	3.94	.67	.59	.41	.86	.72	.79	**.85**	.70
TS	161.42	19.21	.88	.99	.93	.99	.88	.99	.92	**.90**

Note. All correlations are significant on the .001 level; α = Chronbach's alpha; nVS = negative view of self; nVW = negative view of world; nVF = negative view of future; pVS = positive view of self; pVW = positive view of world; pVF = positive view of future; TS = total scale. Numbers above the main diagonal represent the inter-correlations, numbers below the main diagonal represent attenuation corrected inter-correlations, and bold numbers in main diagonal are intraclass correlations representing four-week retest-reliabilities (ICCs).

Table 4

Correlation between CTI scales and CES-D and CEQ scales Administered at the Same Time as well as Four Weeks Later.

	Mean	SD	nVS	nVW	nVF	pVS	pVW	pVF	TS
CES-D t1	15.32	9.80	-.55	-.50	-.52	-.40	-.35	-.39	-.63
CES-D t2	15.73	9.87	-.45	-.39	-.40	-.34	-.27	-.29	-.50
CEQ Cata t1	16.79	3.67	.42	.29	.28	.29	.19	.26	.41
CEQ Over t1	18.92	3.86	.42	.30	.36	.33	.23	.31	.45
CEQ Pers t1	19.29	3.57	.44	.31	.30	.33	.20	.20	.42
CEQ Select t1	18.89	3.48	.43	.34	.29	.26	.26	.17	.42
CEQ Total t1	73.89	12.03	.52	.38	.37	.37	.27	.29	.51
CEQ Cata t2	17.49	3.63	.38	.27	.28	.26	.17	.22	.37
CEQ Over t2	19.11	3.88	.37	.26	.35	.26	.21	.29	.40
CEQ Pers t2	19.17	3.57	.36	.24	.29	.24	.17	.17	.34
CEQ Select t2	19.34	3.56	.35	.32	.28	.20	.20	.12	.34
CEQ Total t2	75.12	12.41	.43	.32	.35	.28	.22	.24	.43

Note. All correlations are significant on the .001 level; nVS = CTI negative view of self; nVW = CTI negative view of world; nVF = CTI

negative view of future; pVS = CTI positive view of self; pVW = CTI positive view of world; pVF = CTI positive view of future; TS = CTI

total scale; CES-D = Center for Epidemiological Studies – Depression Scale; CEQ = Cognitive Error Questionnaire; CEQ Cata. = CEQ scale catastrophizing; CEQ Over. = CEQ scale Overgeneralization; CEQ Pers. = CEQ scale Personalization; CEQ Select. = CEQ scale Selective abstraction; CEQ Total = CEQ total scale; t1 = administered at the same time as CTI; t2 = administered four weeks after administration of CTI.

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[1] Following a suggestion provided by an anonymous reviewer, separate confirmatory factor analyses with women and men and for participants below and above the CES-D cutoff score for all four models were performed as well. Results of these confirmatory factor analyses showed that none of the additional calculated 12 goodness of fit indices of the 1-factor model was within the acceptable range. For the 3-factor model only the RMSEA for women were in the acceptable range (1 of 12 goodness of fit indices). For the 5-factor model the RMSEAs for all but the above CES-D cutoff score subsample and the CFI of women were acceptable (4 of 12 goodness of fit indices). Finally, results of the 6-factor model showed that all goodness of fit indices for women, RMSEAs and CFIs for participants above and below CES-D cutoff score, and RMSEA for men are in the acceptable range (8 of 12 goodness of fit indices). Beyond this, the AIC for everybody but men are better for the 6-factor model than for the other factor models. In men the AIC of the 5-factor model is slightly lower than the AIC of the 6-factor model. In general, the results of the confirmatory factor analyses with subsamples confirm the results with the total sample, supporting the 6-factor model (The described results are available from the author).