The dimensions of the Dutch SCL-90: more than one, but how many?

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Within the Netherlands, there is a controversy regarding the question to what extent the SCL-90 can be considered an eight-dimensional self-assessment scale for psychopathology. Recently, the Dutch group who introduced the SCL-90 in the Netherlands again defended the premise that the SCL-90 has a structure of eight dimensions, on the basis of LISREL analyses on the SCL-90 scores of a large group of pain patients. In our study, also using the confirmatory factor analytic LISREL model, we investigated to what extent an eight-dimensional structure for the SCL-90 could be found in a large group of psychiatric patients (n = 1219). A parsimonious dimensional structure sufficiently explained our SCL-90 data. A reduced dimensionality was found for the Dutch SCL-90. The differences between the results of our study and the earlier findings of the Dutch promoters of the SCL-90 are mainly due to their accommodating application of the fit criteria. *(Netherlands Journal of Psychology, 63,* 29-35*.)*

For years now, the SCL-90 (Symptom Checklist) has been the most frequently used diagnostic and evaluative measurement instrument in Dutch mental health care. The SCL-90 has various strong points and advantages. Originating from the United States, this self-assessment scale for psychopathology is an excellent translation, the items appeal to the patients and are easy to respond to. The SCL-90 contains a wide range of clinically relevant psychiatric and psychosomatic symptoms. The instrument is thus suitable for the 'dragnet approach': symptoms that are not noticed in the diagnostic interview or are not mentioned in the answers to the SCL-90 can still be detected. The SCL-90 has undergone extensive psychometric testing. The internal consistency and stability of the subscales and the total scores are adequate, as is the discriminatory power of the SCL-90 (Arrindell & Ettema, 2003; Hafkenscheid, 1993). The psychometric status of the SCL-90 is, however, controversial regarding the reproducibility of the symptom dimensions that are distinguished in the measurement instrument (Hafkenscheid, 2004a, 2004b).

When developing the American SCL-90, the primary aim was to create an inventory of clinically distinguishable, relatively independent clusters of complaints and symptoms. In the American

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situation, partly on an empirical and partly on *a priori* basis, ten (Lipman, Covi & Shapiro, 1979) or nine (Derogatis, Lipman & Covi, 1973; Derogatis & Cleary, 1977) such clusters were distinguished within the SCL-90: somatising, obsessive-compulsive symptoms, interpersonal sensitivity, depression, (diffuse) anxiety, hostility, phobic anxiety, paranoid idea forming, psychotic symptoms and sleeping problems.

In the last 25 years, many attempts have been made to verify the postulated multidimensional structure of the SCL-90 empirically. These attempts include both the English and the translated versions of the instrument. Practically without exception, investigators from all over the world come to the same conclusion that (a) the SCL-90 is dominated by a *general complaint factor* and/or (b) that the dimensional structure of the scale seems to be unstable when testing that structure in different groups of respondents. These conclusions extend to the different norm groups, relevant for the use of the SCL-90: hospitalised psychiatric patients (Bonyinge, 1993; Carpenter & Hitner, 1995; Hafkenscheid, 1993; Rauter, Leonard & Swett, 1996), ambulant psychiatric patients (Hafkenscheid, 1993; Holi, Sammallahti & Aalberg, 1998; Schmitz, Hartkamp, Kiuse, Franke, Reister & Tress, 2000) and 'normals' (Holi et al., 1998; Vassend & Skrondal, 1999; Hessel, Schumeighter, Geyer & Brähler, 2001).

In confirmatory factor analytic research into the Dutch version of the SCL-90 in samples of hospitalised and ambulant psychiatric patients (Hafkenscheid, 1993), it was not possible to reproduce the postulated dimensional structure of the SCL-90 either. Using explorative analyses, it only proved possible to distinguish four factors from the original dimensions that were clinically interpretable: depression, hostility-suspicion, somatising and phobic anxiety.

Originally, Arrindell & Ettema (1981), who introduced the SCL-90 into the Dutch language area, also came to the conclusion that the American factor structure is not feasible for the Dutch SCL-90, on the grounds of invariance testing in large samples of phobic patients and normals. What seemed optimal in their study was the option of three to four factors: social inadequacy, somatising, phobic anxiety and hostility.

On the grounds of the 'renewed factor analysis with VARIMAX rotation on the reported group of 841 phobic patients' (Arrindell & Ettema, 1986, p. 14) the authors in their first manual for the Dutch SCL-90, however, still ended up with a classification of eight different symptom clusters: anxiety (ANX), agoraphobic symptoms (AGO), somatic symptoms (SOM), depression (DEP), inadequacy of thinking and acting (IN), interpersonal sensitivity (SEN), hostility (HOS) and sleeping problems (SLE). These eight exploratively acquired factors have been the pillars of the subscale classification of the Dutch SCL-90 ever since. Justification of the eight separate factors is underpinned in different samples by invariance testing in both the original (Arrindell & Ettema, 1986) and the revised manual (Arrindell & Ettema, 2003). The intercorrelations between the symptom clusters distinguished by the authors, however, proves to be quite high.

Partly due to these high intercorrelations, Hafkenscheid (2004a; 2004b) questioned to what extent it is justified to consider the SCL-90 an instrument that measures more than only a limited number of dimensions (symptom areas). In their reaction, the authors of the Dutch SCL-90 (Arrindell, Ettema, Boomsma & Stewart, 2004a, 2004b) were distinctly critical about all the earlier studies in which evidence was only found for a limited number of specific dimensions. The analysis methods used in those studies (exploratory or confirmatory) were unsound, in the eyes of the authors. The authors did not approve of the interpretation of the results in these studies either.

Arrindell et al. (2004a) did not limit themselves to a theoretical defence of their standpoint, that the SCL-90 measures a large number of distinguishable symptom dimensions. They presented new findings that would empirically support the multidimensional structure of the SCL-90 further. In a large sample of pain patients they were able to replicate their Dutch eight-factor model with the help of linear structural relations (LISREL) analyses.

Indeed, LISREL analyses are seldom used to test the SCL-90 in a multidimensional model. A replication study is, therefore, justified in all respects, especially in a sample of subjects for whom the multidimensional character is preeminently relevant: people with psychiatric problems whose symptoms are such that it should be possible to specify them clearly.

In this article we present LISREL analyses of the SCL-90 scores from a large convenience sample of (ambulant and hospitalised) psychiatric patients. The primary goal of our study is to investigate the extent to which the eight-dimension model of Arrindell et al. (2004a) can be retraced in our sample. Arrindell et al.'s model (2003; 2004a) has been criticised because the dimensions are strongly linked together (Hafkenscheid, 2004a; 2004b), so that there would, in fact, be less dimensions. We have therefore linked to our primary objective the question whether a more parsimonious model (thus with less underlying factors) could suffice.

We will test the hypothesis that the eight-dimension concept of Arrindell et al. (2004a) also forms the basis of our data by confirmative factor analysis (CFA). A new element of our study is that the CFA is not used to test a purely *measurement model,* in other words a model of probable correlated (oblique) factors each of which will be

measured by a number of indicators (items). In our study confirmative factor analysis is primarily used to provide an *explanation* for the correlations between the items. We are testing models in which information that is shared by items from several subscales and that is expressed in correlations between these items is separated from information that the items in a subscale generate, independent of the information contained in items from other subscales. In this way we can gain an impression of the number of facets for which independent information can be gathered by means of the subscales of the SCL-90.

A second, new element of this study is that we will try to quantify how much information is generated by factors that provide intercorrelations between the subscales and how much by other factors. We consider the number of factors that provide a substantial amount of independent information to be an indication of the dimensionality of the SCL-90.

If a subset of items shows higher intercorrelation than with the other items, then these items contain information that they do not share with the other items. The increased correlation can be explained by an independent (orthogonal) factor, which points to an extra dimension. According to Arrindell et al. (2004a) the SCL-90 is based on eight such dimensions. A further elaboration and technical translation can be found in the description of the statistical procedures below.

Participants

The subjects in our study consisted of an unselected, pooled sample of in total 1219 psychiatric outpatients and inpatients. The SCL-90 was filled out by these patients within the framework of a dissertation study (Hafkenscheid, 1994), in the context of research into the applicability of the Patient Request Form (PRF; Dutch name: *Patiënten Behoeften Vragenlijst* (PBV); Veeninga & Hafkenscheid, 2002, 2004a, 2004b) or in the context of a comparative study into the different formulas for measuring reliable change (Hafkenscheid, Kuipers & Marinkelle, 1998).

Of the patients, 617 (50.6%) were women and 472 (38.7%) men, with missing data for gender for 130 (10.7%) respondents. The average age was 41.6 years (sd = 14.3; range: 14-87 years), with missing data for age in 63 (5.2%) respondents. About two thirds of the patients (n = 782; 64.2%) filled out the SCL-90 after seeking ambulant treatment in one of the following three institutions: the Sinai Centre for Jewish Mental Health Care (Amersfoort), 'De Grote Rivieren' (Gorkum) psychiatric hospital and Drenthe Mental Health Authority (location Assen; formerly the 'Licht en Kracht' and 'Port Natal' psychiatric hospitals). About one third of the patients (n = 437; 35.8%) filled out the SCL-90 as part of the admission procedure for clinical psychiatric treatment in one of the following four institutions: Midden Brabant Mental Health Authority (formerly 'Jan Wier' psychiatric hospital, Tilburg), 'Groene Hart Hospital', location 'Bleuland' (Gouda), 'Nij Smellinghe Hospital' in Drachten, and 'Waterlandziekenhuis', Purmerend.

All the subjects were considered capable of filling out the SCL-90, according to a psychologist, psychiatrist or psychiatrist in training, on the basis of their psychiatric condition or personality problems.

Statistical procedures

By means of LISREL a sequence of confirmative factor analyses was carried out. For the analyses, Arrindell et al.'s concept (2004a) was used as a guideline. The sequence of analyses started with the most parsimonious concept, namely the one-dimensional model, and ended with the smallest number of dimensions from Arrindell et al.'s concept (2003, 2004a) needed for a satisfactory fit between concept and data. The following rationale was followed.

1 If all items show substantial intercorrelation, there is common information in the total item set of the SCL-90, which is introduced by one general factor. We presuppose that all items load on a general factor G. This general factor is thus responsible for a segment of all intercorrelations. If one factor will not prove to be enough to explain the correlations between all items, the one-dimensional concept should be rejected.
2 If one general factor cannot produce a satisfactory fit then, according to Arrindell et al., (2004a), it is possible that some symptoms correlate more with each other than others. That one or more subsets of items show extra high intercorrelations is expressed in a second-order factor structure in Arrindell et al.'s concept (2004a). We express that as a group factor, which forms the basis for these item sets and is independent of the general factor. We let each subset of items that is associated with a second-order factor load on a corresponding second factor G[m], m = 1, 2, ..., M. All other items have a loading of 0 on this G[m]. In Arrindell et al.'s concept (2004a) there are three of these group factors: (a) Panic with Agoraphobia, on which the item set of ANX, SOM and AGO load; (b) Depression, on which the items of DEP, IN and SLE load; (c) Extrapunitivity, on which the items of SEN and HOS load.
3 If a satisfactory fit cannot be achieved, it will be taken into account that, according to Arrindell et al. (2004a), some items make up a subscale and so the intercorrelation is higher than with all other items. In that case there is clearly another factor, independent of all other factors, which forms the basis of this scale. Formulated more technically, all items still have a substantial loading on one specific intrinsic factor F[n],

n = 1, 2, ..., N, and a zero loading on the other specific factors. The concept of Arrindell et al. (2004a) has eight such factors: ANX, SOM, AGO, DEP, IN, SLE, SEN and HOS.

4 In sum, each variable loads on at least one factor (namely G) and loads on no more than three factors (G, a G[m] and an F[n]). All factors G, G[m] and F[n] are orthogonal and explain cumulatively the correlations between the variables and 'slices of variance' within a variable.

5 The last step in the analyses is directed towards making the model more parsimonious. It will investigate which factors G[m] or F[n] can be dismissed: (a) because the loadings of the corresponding variables are low and the fit of the model is not appreciably influenced by setting them to 0 or (b) because the percentage of variance explained is not interesting.

Results

Table 1 shows the intercorrelations of the eight dimensions (subscales) that, according to Arrindell et al.(2004a), form the basis for the Dutch version of the SCL-90.

The correlations, varying from 0.22 to 0.73, already suggest that, at least at the scale level, one general factor does explain more than a negligible part. However, the results of this first analysis are not exhaustive. In our further analyses, performed at item level, we used more detailed information. A LISREL analysis at item level, in which only one general factor was estimated for all items, shows a poor adjustment between model and data (see table 2, column I).

Subsequently, we carried out the confirmative factor analysis, in which the item collections of (a) ANX, SOM and AGO, (b) DEP, IN and SLE and (c) SEN and HOS each load on an orthogonal group factor. The resulting values for the fit measures are presented in column IIa of table 2 and show a spectacular improvement in the fit. However, particularly the very high χ^2 value suggests that the model needed to be refined even further.

Next, we performed the confirmative factor analysis, in which the eight orthogonal specific factors were added that correspond with the respective subscales. For the items of the subscale ANX on the corresponding specific factor, we found a number of negative loadings, which is contradictory to the polarity of the items. The analysis was therefore repeated with all the loadings of the items for ANX on the specific factor fixed to 0. The values of the fit measures that resulted from this analysis are shown in column IIb in table 2. The adjustment is again spectacularly improved. We note that the fit is even better than the best fit reported by Arrindell et al. (2004a) for their model with higher order factors, namely: χ^2 (in which the size of the random sample is reduced to that in our study) = 13,980, df = 3148, RMSEA = 0.057, SRMR = 0.053, CFI = 0.79 (see their table 2). In other words, Arrindell et al. (2004a) would have found our fit very satisfactory.

In the following step, we investigated whether there might be a more parsimonious model with a comparable adjustment. On inspecting model IIb, it seems that all the loadings on the group factor *depression* (thus the subscales DEP, IN and SLE) are low. In the subsequent analysis, all these loadings were set to 0; the values of the fit measures for this model can be found in column IIIa of table 2. If we study this option, it appears that the majority of the loadings of DEP on the corresponding specific factor are also low. These values of the fit measures for this analysis can be found in column IIIb of table 2, where these loadings are fixed to 0. The options IIIa and IIIb naturally did not fit the data as well as IIb, but

Table 1 Correlations between the eight subscales of the Dutch version of the SCL-90.

	ANX	*SOM*	*AGO*	*DEP*	*IN*	*SLE*	*SEN*	*HOS*
ANX	1.000							
SOM	0.6849	1.0000						
AGO	0.6754	0.5387	1.0000					
DEP	0.7281	0.5834	0.4538	1.0000				
IN	0.5756	0.4674	0.3844	0.6670	1.0000			
SLE	0.4092	0.4380	0.2233	0.4596	0.3566	1.0000		
SEN	0.5432	0.4263	0.3868	0.6419	0.5936	0.3040	1.0000	
HOS	0.4291	0.3999	0.2538	0.4812	0.4329	0.2694	0.5667	1.0000

ANX = anxiety; AGO = agrophobic symptoms; SOM = somatic symptoms; DEP = depression; IN = inadequacy of thinking and acting; SLE = sleeping problems; HOS = hostility; SEN = interpersonal sensitivity.

Table 2	Overview of the values of the fit measures on consecutive confirmative factor analysis.				
	I *1 general*	*IIa* *1 general* *3 groups*	*IIb* *1 general* *3 groups* *7 subscales*	*IIIa* *1 general* *2 groups* *7 subscales*	*IIIb* *1 general* *2 groups* *6 subscales*
χ^2	43,757	20,394	12,076	12,723	13,183
Df	3159	3078	3007	3035	3051
RMSEA	0.1028	0.0689	0.0498	0.0512	0.0522
SRMR	0.0768	0.0643	0.0455	0.0486	0.0487
CFI	0.568	0.731	0.839	0.830	0.823
NNFI	0.557	0.717	0.827	0.818	0.812

their fit was still better than what Arrindell et al. (2004a) considered satisfactory in their adjustments.

We would like to examine model IIIb more closely. As with all the previous models, this model is based on orthogonal factors. This means that per factor the percentage of variance explained in a certain item set can be readily calculated. Table 3 shows the results of this. The table also shows that the *general factor* explains a fairly substantial percentage of variance in all subscales, for a relatively large amount linked to the subscale DEP. The subscale ANX indicates the group factor *anxiety* as well as the general factor. In addition to these two factors, the subscales SOM and AGO also indicate two other *specific factors*. The subscales IN and SLE indicate two *specific factors* as well as the general factor. The subscales SEN and HOS indicate the group factor *extrapunitivity* and two *specific factors* as well as the general factor. In other words, the subscale DEP does not contain any subscale-specific information that is not connected with the information in other scales. ANX contains information that is related to information that can also be found in the scales SOM and AGO. The six other scales SOM, AGO, IN, SLE, SEN and HOS all contain information from a specific factor that is related to the subscale, as well as information from common factors. There are thus in fact only six dimensions. The corresponding subscales are connected together because they also contain information on the general factor and group factors.

Table 3	Number of items per scale, structure of factor loads and percent of variance explained by the general factor, group factor and specific factor in model IIIb.										
Scale	# *Items*	*G*	*Group factors*		*Specific factors/subscales*						
			Anxiety	*Extra-punitivity*	*SOM*	*AGO*	*IN*	*SLE*	*SEN*	*HOS*	*Total*
ANX	10	30	16								46
SOM	12	15	7		15						37
AGO	7	14	21			20					55
DEP	16	38									38
IN	9	24					16				40
SLE	3	16						41			57
SEN	18	13		9					9		31
HOS	6	13		9						23	45

For an explanation of the abbreviations of the subscales, see table 1.

Looking at the percentages of variance explained, there can still be some doubts about the meaning of the dimension SEN. This dimension explains a relatively modest percentage in the subscale in question. To test this, we carried out a CFA in which the loadings of this subscale on this dimension were fixed to 0. The following values resulted for the fit measures: $\chi^2 = 14{,}196$, df = 3069, RMSEA = 0.054, SRMR = 0.050, CFI = 0.81, and NNFI = 0.80. So, this model is based on five specific dimensions and shows a fit with the data that lies within the limits of what Arrindell et al. (2004a) considered to be acceptable.

Can we, on the basis of our data and the fit criteria used by Arrindell et al (2004a), conclude that there is a much more parsimonious factor structure than the eight-dimensional one? A problem is that Arrindell et al. (2004a) only base their work on *global* fit criteria. A further problem is that many investigators will not find our results and those of Arrindell et al. (2004a) acceptable (especially the χ^2 / df ratio, which should preferably be < 3, and the values for CFI and NNFI, which should preferably be > 0.90). When we also include the *detailed* fit measures in our analysis, as the literature considers to be necessary for structural relation models, much becomes clear. In the computer output for model IIIb we see that no less than 14 modification indices belong to the fixed factor loadings > 30, of which 6 are even > 50. (The modification index of a correctly fixed factor load is preferably ≤ 6.) To study this effect a CFA was performed relaxing (i.e. setting free) the 13 fixed factor loadings with a modification index >30, which when relaxed leads to a positive factor loading. The following values for the fit measures resulted: $\chi^2 = 11{,}868$, df = 3038, RMSEA = 0.049, SRMR = 0.045, CFI = 0.85, NNFI = 0.84. The values for χ^2 / df, CFI and NNFI slowly rise to values that are considered more generally acceptable. The fit can be improved further if, for instance, the many fixed factor loadings with modification index > 10 are relaxed. We did not carry out this last analysis because of the arbitrary nature of this choice. An even more important reason is that in performing such analyses, the original model of Arrindell et al. (2004a) would increasingly be abandoned. All sorts of items are given a substantial loading on factors on which they should not load according to the model of independent dimensions. In this way an intricate factor structure is created that should lead to the conclusion that the original eight-factor model does not fit the data well, but it is unclear to what extent and which underlying factors would make a better fitting model.

Conclusions

All in all, our study provides little specific support for the eight-dimensional concept that Arrindell et al. (1986; 2003; 2004a; 2004b) defend for the SCL90. If we were to have been just as accommodating as Arrindell et al. (2004a, 2004b) in applying the fit criteria, then their model could not have been refuted. But the same applies just as much to the more parsimonious six- and five-dimensional concepts.

We ascertained that a significant proportion of the intercorrelations of the items can be explained by a general factor that is linked most to the subscale DEP, which furnishes no further independent information. However, a one-dimensional model is too simple and clearly does not fit with the data.

We agree with Vassend and Skrondal (1999) that values for the fit measures, as found by Arrindell et al. (2004a, 2004b), do not in fact represent a good fit. If the lack of adjustment is studied for the more detailed aspects – and investigators are obliged to do this – then the concept of a clear dimensional structure collapses. Many items prove to be linked with other dimensions, so that, to put it crudely, everything seems to be connected. This too could explain why some investigators, on the grounds of less in-depth analyses, are of the opinion that the SCL90 is a one-dimensional measuring instrument. It will be clear that, with the results obtained in our study, we do not endorse this radical conclusion (any longer). On this point, too, we agree with Vassend and Skrondal (2004), who talk of a 'structural indeterminacy in multidimensional symptom report instruments', which they have also shown in the case of SCL90-R.

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References

Arrindell, W.A. & Ettema, J.H.M. (1986). Symptom Checklist (SCL-90). Handleiding bij een multidimensionele psychopathologie-indicator. Lisse: Swets & Zeitlinger.

Arrindell, W.A. & Ettema, J.H.M. (2003). Symptom Checklist (SCL-90). Handleiding bij een multidimensionele psychopathologie-indicator. Lisse: Swets Test Publishers.

Arrindell, W.A., Boomsma, A., Ettema, H., Stewart, R. (2004a). Verdere steun voor het multidimensionale karakter of the SCL-90-R. *De Psycholoog, 39*, 195-201.

Arrindell, W.A., Boomsma, A., Ettema, H., Stewart, R. (2004b). Nog meer steun voor het multidimensionale karakter of the SCL-90-R. *De Psycholoog, 39*, 368-371.

Bonynge, E.R. (1993). Unidimensionality of SCL-90-R scales in adult and adolescent crisis sample. *Journal of Clinical Psychology*, *49*, 212-215.

Carpenter, K.M. & Hittner, J.B. (1995). Dimensional characteristics of the SCL-90-R: evaluation of gender differences in dually diagnosed inpatients. *Journal of Clinical Psychology*, *51*, 383-390.

Derogatis, L.R. Lipman, R.S. & Covi, L. (1973). SCL-90, an outpatient psychiatric rating scale –preliminary report. *Psychopharmacology Bulletin*, *9*, 13-28.

Derogatis, L.R. & Cleary, P.A. (1977). Confirmation of the dimensional structure of the SCL-90: a study in construct validation. *Journal of Clinical Psychology*, *33*, 981-989.

Hafkenscheid, A. (1993). Psychometric evaluation of the Symptom Checklist (SCL-90) in psychiatric inpatients. *Personality and Individual Differences*, *14*, 751-756.

Hafkenscheid, A. J. P. M. (1994). Rating scales in treatment efficacy studies: individualized and normative use. Groningen (unpublished thesis).

Hafkenscheid, A., Kuipers, A., Marinkelle, A. (1998). De vragenlijst als effectmaat bij 'N = 1': hoe bruikbaar zijn statistische definities van 'klinische significantie' en 'betrouwbare verandering'? *Gedragstherapie*, *31*, 221-239.

Hafkenscheid, A. (2004a). Hoe multidimensionaal is de SCL-90 nu eigenlijk? *De Psycholoog*, *39*, 191-194.

Hafkenscheid, A (2004b) Verdere steun voor het multidimensionale karakter of the SCL-90? Antwoord aan Arrindell, Boomsma, Ettema & Stewart (2004) *De Psycholoog*, *39*, 366-368.

Hessel, A., Schumeighter, J. Geyer, M. & Brähler, E. (2001). Symptom Checkliste SCL-90 R. Testtheoretische Űberprúfing und Normierumg an einer bevölkerungsrepräsentativen Stichprobe. *Diagnostica*, *47*, 27-39.

Holi, M.M., Sammallahti, P.R. & Aalberg, V.A. (1998). A Finnish validation study of the SCL-90. *Acta Psychiatrica Scandinavica*, *97*, 42-46.

Lipman, R.S., Covi, L. & Shapiro, A.K. (1979). The Hopkins symptom checklist; factors derived from the HSCL-90. *Journal of Affective Disorders*, *1*, 9-24.

Schmitz, N., Hartkamp, N, Kiuse, J., Franke, G.H., Reister, G. & Tress, W. (2000). The Symptom Checklist: A German validation study. *Quality of Life Research*, *9*, 185-193.

Vassend, O. & Skrondal, A. (1999). The problem of structural indeterminacy in multidimensional symptom report instruments. The case of SCL-90-R. *Behaviour Research and Therapy*, *37*, 685-701.

Veeninga, A.T. & Hafkenscheid, A. (2002). Patiëntgerichte kwaliteit van zorg. Een methode om te evalueren of patiënten bereiken wat ze wensen. *Tijdschrift voor Psychotherapie*, *28*, 38-53.

Veeninga, A.T. & Hafkenscheid, A. (2004a). Verwachtingen van patiënten bij aanvang van psychotherapie: voorspellers van drop-out? *Tijdschrift voor Psychotherapie*, *30*, 187-195.

Veeninga, A.T. & Hafkenscheid, A (2004b). De Patiënten Behoeften Vragenlijst (PBV). *Gedragstherapie*, *37*, 197-203.