

A measurement of social support in epidemiological research: the social experiences checklist tested in a general population in The Netherlands

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Abstract

Study objective – This study aimed to examine in a general population the psychometric qualities of an instrument designed to measure positive and negative social experiences that had been developed in a clinical setting.

Design – The Netherlands monitoring project on cardiovascular disease risk factors, a large scale population based study (comprising 36 588 men and women aged 20 to 59 years) carried out in three Dutch towns (Amsterdam, Doetinchem, and Maas-tricht) offered the possibility of testing the strength of this instrument cross sectionally.

Measurements and main results – The social experiences checklist (SEC) which resulted from a research project on the quality of life of cancer patients was used. The independence of positive and negative experiences was confirmed. The reliability of both the positive and negative experiences dimension was good (Cronbach's alpha = 0.82 and 0.72 respectively). In accordance with the results of a study on cancer patients, the theoretically derived four dimensions in the experience of social support did not seem to be independent. The validity of the SEC was confirmed by Pearson correlations with neuroticism and coping styles. Neuroticism seemed to be negatively correlated with positive social experiences and was positively correlated with negative social experiences. The coping style of seeking information and direct action was positively correlated with positive social experiences. Coping by withdrawal was negatively correlated with negative social experiences. Women and highly educated people seemed to have more positive and fewer negative social experiences than men and people with less education. Younger people had more positive social experiences than older people. The oldest group in the study, those aged 50 to 59, reported fewer negative social experiences than any other age group. **Conclusions** – Similar results were found in a study of cancer patients. This underlines the usefulness of the instrument not only for cancer patients but also in survey research in a general population.

Social support is implicated in the aetiology of, recovery, and death from both physical and mental disease.¹⁻⁷ Social support is not only supposed to have an effect on adaptation after life events, but can also lead to a reduction of health problems because of more adequate handling of these problems.^{3,8-10} The study of relationships between social support and morbidity and mortality was initiated by the classic studies of Cassel,^{11,12} Caplan,¹³ and Cobb.¹⁴

Mechanisms by which characteristics of the social network influence disease have remained largely unidentified in this research. Recently, Cohen⁵ and Schwarzer and Leppin⁷ have proposed models on the relationships between social networks and health. These models start from the differentiation of types of social support. Other aspects of social networks, like measures of type, quantity, and structure of social contacts, are assumed to influence the perceived or received social support. Schwarzer and Leppin point to the distinction between "cognitive" (perceived) and "behavioural" (received) support. Cognitive support is supposed to influence morbidity and mortality in a direct way, whereas behavioural support is supposed to buffer the effects of stress on morbidity. Social support is supposed to prevent and influence the course of cardiovascular diseases in particular.¹⁵⁻¹⁷ In an attempt to test the direct effects of social support on cardiovascular diseases, we incorporated a checklist investigating positive and negative social experiences (social experiences checklist, SEC) to measure social support in The Netherlands monitoring project on cardiovascular disease risk factors. The aim of this project was to monitor major risk factors for cardiovascular diseases. The SEC was originally developed in a study on the quality of life of cancer patients.^{18,19} In this article, we will describe the psychometric qualities of the social experiences checklist (SEC) in a large population based sample.

Methods

SAMPLE

The data originate from The Netherlands monitoring project on cardiovascular disease risk factors that was carried out between 1987 and 1991. Each year, random samples of men and women, aged 20 to 59 years, were invited to participate. Stratified samples (according to age and gender) were taken from the registries of the towns of Amsterdam, Doetinchem, and

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Maastricht. Each year, for each gender and age stratum, 400 persons were selected in Doetinchem and Maastricht. In Amsterdam 500 persons were selected per year (owing to the expected lower response).

In Amsterdam, Doetinchem, and Maastricht respectively in 1987–91, 25 421, 20 195, and 22 739 persons were invited to participate. The response in Amsterdam was 45.2%, in Doetinchem 61.7%, and in Maastricht 55.8%. In all towns the attendance rate for women was higher than for men. For men as well as for women the attendance rate for the youngest age group was the lowest. The overall response rate was 53.5%.

INSTRUMENTS

All persons who were willing to participate in the study received a questionnaire to be filled in at home. The SEC was part of this questionnaire. The respondent was asked to take the questionnaire to the municipal health service office, where it was checked for completeness and consistency by a trained technician.

The checklist on social experiences was developed to study the (experienced) quality of social relations. It was not developed to measure the extent of the social network. The construction of the checklist was based on three important theoretical notions. First, the foundation of the construction was the view of Thoits²⁰ that social support has to be understood as the amount by which the social needs of an individual are fulfilled by the interaction with others. Secondly, social support was considered to have different dimensions. The four dimensions distinguished by Van de Vliert and De Boer²¹ were adopted:

- Emotional support (information to state that the receiver is beloved, one feels sympathy for him or her);
- Affirmational support (information to state that one is respected and admired);
- Instrumental support (practical help to reach a purpose); and
- Presence (information to make the receiver believe he or she has social ties).

Thirdly, both positive and negative experiences were included in the SEC. There is a growing interest in these negative experiences.^{3,22–24} As Coyne *et al.*²⁵ stated, “We know now that the problems and burdens posed by social relationships may be more closely related to adaptational outcomes than to the support that is provided, and similarly, that the degree of upset that relationships cause can be more important than their helpfulness”. Relationships can be a source of conflicts, feelings of guilt, shame, and frustration (“non-support”^{26–28}) as well as sources of a more positive nature. Taken together, the SEC reflects experiences in social relations, which can be positive as well as negative and are related to the emotional, affirmational, instrumental, and presence dimensions of social interaction.

To measure social experiences in a large scale survey, an instrument was needed that covered the described types of experiences and was clear, short, and easy to fill in. To achieve

this a checklist was developed, based on an instrument formulated by Revenson *et al.*,²⁹ in which eight items represented the positive social experiences during the last week, independent from the source of support. The checklist of Revenson *et al.*²⁹ covered three of the four mentioned dimensions. Tempelaar *et al.*¹⁸ added two items referring to the affirmational dimension to this list. Two other items as used by Revenson *et al.*²⁹ were omitted – one emotional item and one instrumental item. A checklist of eight items evolved, which measured social interactions and covered the desired four dimensions. Analogous to the positive items, eight negative items were formulated by Tempelaar *et al.*,¹⁸ which were also related to the four dimensions mentioned above. The positive and negative items were put in random order to reduce the response set. This new list was called the social experiences checklist (SEC).

The instrument that assesses social experiences consists, as described above, of 16 items. Eight items correspond to positive and eight to negative experiences. The answers on those items are formulated on a four point, Likert-type, scale (appendix) with answering categories:

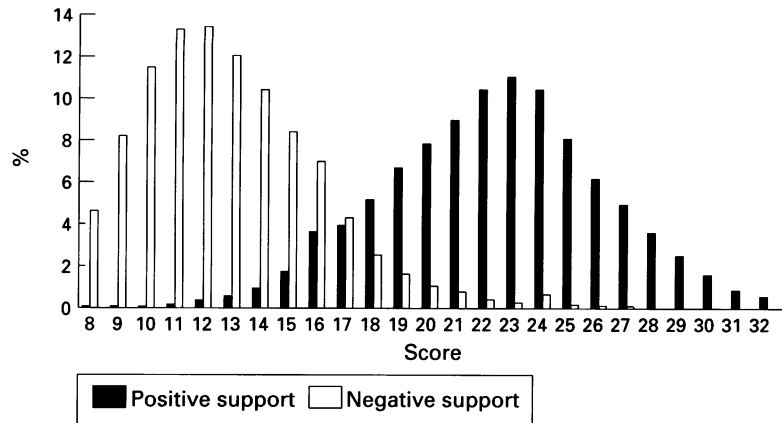
- Never (1);
- Sometimes (2);
- Regularly (3); and
- Often (4).

To ensure uniformity of the total questionnaire, experiences were referred to the last month instead of the last week. As social experiences are supposed to be an “individual difference variable”,⁷ there seemed to be no objections to this.

To establish the validity of the SEC, two other scales from the questionnaire, on neuroticism and coping, were used. Other research suggests that neurotic people and people who cope with all kinds of problems by withdrawal experience their social environment more negatively than people who are less neurotic or people who cope with their problems by acceptance or rational action.^{19,30,31} Neuroticism was measured by a shortened version developed by Ormel³² of the N-scale of the Amsterdam biographical questionnaire. This scale was originally developed by Wilde on the basis of the Maudsley personality inventory of Eysenck. The items in this questionnaire measure neuroticism that manifests as psychoneurotic, psychosomatic, or functional complaints. Coping was measured by a list of 19 items developed by de Haes.³³ De Haes identified five dimensions:

- Seeking information and direct action;
- Cognitive ways to relieve emotions;
- Running away from problems;
- Withdrawal and guilt, and
- Unspecified direct action.

In de Haes’ research on quality of life of cancer patients, the fourth factor (on withdrawal and guilt) showed a low reliability, and she therefore decided to analyse the different items separately. These items concern: (1) eating, drinking, and taking medicines, (2) withdrawal from others, (3) blaming others, (4) blaming your-



Social experiences scale – distribution of scores ($n = 32\ 563$).

Table 1 Sociodemographic characteristics of the sample ($n = 36\ 588$)

Gender:	
Male	46.9%
Female	53.1%
Age (y):	
20–29	18.7%
30–39	26.4%
40–49	27.8%
50–59	27.1%
Educational level:	
Low	44.9%
Medium	37.0%
High	18.2%

self. If the factors distinguished by de Haes show low reliability in this study, we will also analyse the different items separately. Sociodemographic characteristics (gender, age, and education) of the sample are described in table 1. Age is grouped into four categories (20–29 years, 30–39 years, 40–49 years, and 50–59 years). Education refers to the highest completed type of education, which is coded in three categories: low (low secondary education or less), medium (vocational or higher secondary education), and high (higher vocational or university education).

STATISTICS

The psychometric qualities of the SEC were determined by the distribution of answers per item, the independence of positive and negative

experiences, the independence of the four dimensions of support, and the reliability and validity of the instrument. Frequency distributions, means (SD) per item, were calculated to evaluate the distribution of answers. To determine the independence of negative and positive experiences, and the independence of the four dimensions of support, we performed principal component factor analyses with varimax rotation and calculated Pearson product-moment correlations. We performed a forced two factor analysis to distinguish negative from positive experiences, and a forced four factor analysis to distinguish the four different dimensions of support. We choose 0.25 as the lowest value of the factor loadings to be considered. The reliability of the checklist (and of the lists used for validation of the SEC) were determined by evaluating Cronbach's alphas. To determine the validity of the SEC, we calculated Pearson product-moment correlations with neuroticism and coping. To conclude, we calculated mean scale scores for men and women, for different age groups, and for different groups according to education. The differences between these groups were tested with the F-test, ANOVA. All statistical analyses are carried out using *SAS, version 6.07*. All tests were two tailed and a p value of 0.001 or lower was considered statistically significant. Due to different numbers of missing values on specific items of the SEC, the number of respondents included in the analysis differs per analysis.

Results

FREQUENCY DISTRIBUTIONS

The distribution of the answers on the items are presented in table 2. The figure shows the distribution of the scale scores. A number of respondents did not fill in one or more items of the SEC. The item non-response for the group of positive items was 9.1% and that for the group of negative items 9.2%. A total of 32 563 (89%) respondents answered all items referring to their social experiences.

The sum of the items measuring positive experiences is well distributed (skewness = -0.18, kurtosis = 0.01) with a minimal skewness to the left. The distribution of the sum of

Table 2 Frequency distribution (%) of the items measuring social experiences ($n = 36\ 588$)

Item description	Score 1 never	Score 2 sometimes	Score 3 regularly	Score 4 often	Mean	(SD)	No
Positive items:							
1 Warmth and friendliness	0.7	16.7	51.7	30.9	3.1	(0.70)	35 060
3 Esteem	2.3	37.2	49.3	11.2	2.7	(0.70)	34 524
5 That someone spent a pleasant time with you	3.5	23.4	49.6	23.5	2.9	(0.78)	34 397
8 Understanding and sympathy	2.7	27.2	55.4	14.8	2.8	(0.70)	34 325
9 Useful information or suggestions	7.2	47.5	38.0	7.4	2.4	(0.73)	34 158
12 The help of someone	11.2	49.2	32.1	7.5	2.4	(0.78)	34 371
15 That someone trusted you	1.8	18.4	54.3	25.0	3.0	(0.71)	34 403
16 That someone took time to be with you	4.9	27.0	46.3	21.8	2.9	(0.81)	34 354
Negative items:							
2 Incomprehension	19.8	69.6	7.7	3.0	1.9	(0.62)	34 510
4 That people were not willing to help you	44.3	46.5	6.4	2.9	1.7	(0.72)	34 384
6 That someone belittled you	66.7	30.1	2.0	1.2	1.4	(0.59)	34 453
7 That people did not give you enough information	39.8	51.1	7.0	2.1	1.7	(0.69)	34 306
10 Excessive concern	40.4	42.7	11.2	5.6	1.8	(0.84)	34 322
11 That someone avoided you	72.5	24.1	2.1	1.2	1.3	(0.58)	34 258
13 That someone did not take you seriously	57.1	37.8	3.6	1.5	1.5	(0.64)	34 308
14 That people did not leave you in peace	57.3	32.0	7.7	3.0	1.6	(0.76)	34 246

By listwise deletion $n = 32\ 563$

Table 3 Correlation matrix of the items of the social experiences checklist

Item	Items on positive experiences									Items on negative experiences							
	1	3	5	8	9	12	15	16		2	4	6	7	10	11	13	14
3	0.43																
5	0.47	0.36															
8	0.48	0.43	0.43														
9	0.33	0.32	0.31	0.44													
12	0.29	0.24	0.27	0.31	0.35												
15	0.35	0.36	0.37	0.39	0.29	0.26											
16	0.42	0.34	0.51	0.40	0.31	0.33	0.47										
2	-0.16	-0.13	-0.11	-0.14	-0.04	-0.02	-0.06	-0.09									
4	-0.18	-0.14	-0.14	-0.15	-0.07	-0.03	-0.07	-0.13	0.34								
6	-0.18	-0.14	-0.14	-0.15	-0.05	-0.03	-0.09	-0.10	0.34	0.31							
7	-0.15	-0.13	-0.10	-0.12	-0.03	-0.01	-0.04	-0.10	0.32	0.34	0.33						
10	0.05	0.11	0.08	0.09	0.14	0.16	0.13	0.15	0.10	0.10	0.14	0.09					
11	-0.14	-0.08	-0.11	-0.11	-0.02	0.00	-0.07	-0.08	0.25	0.25	0.33	0.26	0.14				
13	-0.15	-0.13	-0.10	-0.14	-0.04	0.01	-0.08	-0.09	0.32	0.28	0.40	0.31	0.13	0.33			
14	-0.07	-0.04	-0.04	-0.05	0.03	0.04	0.04	-0.02	0.25	0.25	0.27	0.25	0.15	0.26	0.30		

Number ranges from 34 158 to 35 060 (pairwise deletion of missing values).
 For = 34 158, $p < 0.001$ for $r > 0.02$, $p < 0.01$ for $r > 0.01$.
 Average inter-item correlation for positive items = 0.37 (n = 33 241).
 Average inter-item correlation for negative items = 0.26 (n = 33 226).
 Average inter-item correlation between positive and negative items = -0.06 (n = 32 563).

Table 4 Factor matrix after varimax-rotation (n = 32 563)

	Factor I	Factor II
Items on positive experiences:		
1	0.70	
3	0.64	
5	0.69	
8	0.72	
9	0.62	
12	0.57	
15	0.66	
16	0.71	
Items on negative experiences:		
2		0.62
4		0.60
6		0.67
7		0.62
10	0.28	0.33
11		0.59
13		0.66
14		0.58

R² total = 41.2%
 Only factor loadings >0.25 are shown

the items measuring the negative experiences is skewed to the right (skewness = 0.96, kurtosis = 1.60).

INDEPENDENCE OF POSITIVE AND NEGATIVE EXPERIENCES

Pearson correlations are shown in table 3. The average inter-item correlations of the positive items was $r = 0.37$ and that of the negative items was $r = 0.26$. The average inter-item correlation between positive and negative items amounts

to $r = -0.06$. The Pearson product-moment correlation between the positive and negative scale is small ($r = -0.13$).

The factor analyses to determine the independence of positive and negative experiences are reported in table 4. The two factors have an Eigen value of more than 2.5. The loadings of the positive items on the first factor amount to 0.57 or more. The negative item 10 ("excessive concern") has a different position, because it has a loading of 0.28 or higher on both factors. The communality of this item is 0.19. The communalities of the other items fluctuate between 0.33 and 0.54. If item 10 ("excessive concern") is removed from the group of negative items the average inter-item correlation for this group increases to $r = 0.30$. The negative items with the exception of item 10 (0.33) have factor loadings of 0.58 and higher on the second factor. Of all items with a loading higher than 0.25, item 14 ("not to be left in peace") has the lowest value (0.58).

INDEPENDENCE OF THE FOUR DIMENSIONS

The factor analyses to determine the independence of the four dimensions of support are reported in table 5. From this table, an unrecognisable pattern concerning the positive dimension becomes visible. Most items have a loading on more than one factor. The "emotional" items load on factors I and II, the "affirmational" items load on factors II and IV, "presence" item 16 loads on factors I and IV and the "instrumental" item 9 loads on factors II and III. In addition, the negative dimension does not show a clear structure. All items load on factor I and six of the eight items also load on factor III. The communalities of the positive items vary between 0.62 and 0.89 and that of the negative items between 0.51 and 1.00. Since these four dimensions can not be distinguished properly, we limit further analyses presented here to the two scales of positive and negative social experiences.

RELIABILITY

The positive social experiences dimension shows a high degree of reliability (Cronbach's

Table 5 Factor matrix after varimax rotation

	Factor I	Factor II	Factor III	Factor IV
For items of positive experiences (n = 33 241)*				
Item 1 - emotional	0.64	0.50		
Item 3 - affirmational		0.77		0.28
Item 5 - presence	0.83			
Item 8 - emotional	0.36	0.64		
Item 9 - instrumental		0.56	0.61	
Item 12 - instrumental			0.87	
Item 15 - affirmational		0.27		0.88
Item 16 - presence	0.63			0.53
For items of negative experiences (n = 33 226)				
Item 2 - affirmational			0.26	
Item 4 - instrumental			0.46	
Item 6 - instrumental			0.68	
Item 7 - affirmational			0.25	
Item 10 - emotional		0.90	0.27	
Item 11 - presence			-0.49	
Item 13 - emotional			-0.32	
Item 14 - presence				0.80

* R² total = 73.7%. Only factor loadings >0.25 are shown.
 R² total = 67.5%. Only factor loadings >0.25 are shown

Table 6 Correlations between the social experiences checklist, neuroticism, and coping

	Social experiences checklist	
	Positive	Negative
Neuroticism	0.27	-0.45
Coping:		
Seeking information and direct action	0.40	0.04
Cognitive ways to relieve emotions	0.11	0.03
Running away from problems	0.07	0.08
Withdrawal and guilt	-0.14	0.37
Eating, drinking and taking medicines	-0.07	0.22
Withdrawal from others	-0.17	0.28
Blaming others	-0.07	0.24
Blaming yourself	-0.04	0.20
Unspecified direct action	0.10	0.17
Do something, whatever	-0.01	0.19
Do something that helped before	0.16	0.08

The number ranges from 32 320 to 34 129.
All correlations are statistically significant, $p < 0.001$.

$\alpha = 0.82$). The negative social experiences dimension is less reliable ($\alpha = 0.72$) than the dimension of positive social experiences. When item 10 ("excessive concern") is removed the Cronbach's alpha increases to 0.74.

VALIDITY

Pearson correlations between neuroticism, types of coping, some items on coping (the items of factors 4 and 5, which have low reliability), and the SEC are shown in table 6. The reliability of the scale on neuroticism in this study is $\alpha = 0.83$. Correlations ($p < 0.001$) between neuroticism and positive social experiences ($r = -0.27$) and between neuroticism and negative social experiences ($r = 0.45$) are as expected. The reliability of the types of coping are $\alpha = 0.74$ for seeking information and direct action, $\alpha = 0.68$ for cognitive ways to relieve emotions, $\alpha = 0.69$ for running away from problems, $\alpha = 0.51$ for withdrawal and guilt, and $\alpha = 0.36$ for unspecified direct action. The strongest positive correlation is found for the combination of positive social experiences and seeking information and direct action ($r = 0.40$). The strongest negative correlation is found for the combination of withdrawal from others and negative social experiences.

GENDER, AGE, AND EDUCATION

The analyses described above are repeated for groups according to gender, age, and education. All psychometric analyses show the same results, with one exception. The negative

Table 7 Mean (SD) scale scores according to gender, age, and education

	Social experiences checklist	
	Positive	Negative
Gender:		
Men	21.9 (3.87)	13.1 (3.18)
Women	22.7 (3.95)	12.7 (3.13)
Age:		
20-29	23.4 (3.77)	12.8 (2.96)
30-39	22.5 (3.85)	12.9 (3.07)
40-49	21.9 (3.96)	13.1 (3.30)
50-59	21.7 (3.94)	12.7 (3.21)
Education:		
Low	21.6 (4.01)	13.14 (3.37)
Medium	22.6 (3.79)	12.75 (3.05)
High	23.3 (3.71)	12.54 (2.78)

The number ranges from 33 149 to 33 241.
All means are statistically different, F-test ANOVA, $p < 0.001$

item 10 ("excessive concern") shows a factor loading of 0.28 or higher on both factors only for people aged 40 years or older. Among younger people this item only loads on the negative factor, as expected.

Mean scores per group are presented in table 7. Women and highly educated people seem to have more positive and fewer negative social experiences than men and people with lower education. Younger people have more positive social experiences than older people. For negative experiences the relationship with age is less clear. The amount of negative experiences increases gradually in the age group of 20-29 years to the group of 40 to 49 years of age. The oldest people in the study, those aged 50 to 59 report fewer negative social experiences than any other age group.

Discussion

This study aimed to examine the psychometric qualities of an instrument to measure positive and negative social experiences (developed in a clinical setting) in a general population. The reliability of the positive and negative SEC can be considered reasonably good. The four theoretically distinguished dimensions of support - "emotional", "affirmational", "presence", and "instrumental" - could not be distinguished. This may be because these dimensions are wrongly considered to be mutually independent and can not therefore be expressed in four factors by the method used.

These results confirm earlier findings regarding the independence of positive and negative experiences and the validity of the instrument.¹⁸ It seems that the SEC can be used in a broader perspective than the patient population it was originally developed for (cancer patients). Tempelaar *et al.*^{18,19} studied the psychometric qualities of the SEC within the scope of a study on the quality of life of cancer patients. The population in that study was heterogeneous: 217 cancer patients under treatment, 192 "disease free" patients, and a sample of 201 respondents from a general population. The most important findings were that the answers on the positive items were well distributed and that the answers on the negative items were skewed to the left. The positive and negative experiences were independent, but the four described dimensions could not be distinguished within the positive and negative domain. The reliability of both the positive and negative experiences checklist was good, and the validity of the instrument was satisfactory. The fact that in our study we asked about social experiences during the last month instead of the last week had no consequences for the reliability, the structure, or the validity of the checklist compared with the results of Tempelaar *et al.*¹⁸

Results with regard to scores according to gender, age, and education differ somewhat from those reported by Tempelaar *et al.*¹⁹ Their results (for surgical patients only) concerning the relationship with age are similar to ours: younger people have more positive social experiences than older people, and the oldest

people report fewer negative social experiences than any other age group. In our study, women and highly educated people appear to have more positive and fewer negative social experiences than men and people with lower education. Tempelaar *et al*¹⁹ did not find any differences with regard to education. In their study, women reported more positive and more negative social experiences. Unfortunately, they did not report mean scores for the respondents from the general population incorporated in their study. Therefore, it is not possible to determine the cause of these differences.

Some observations can be made. In the first place, the distribution of the answers on both the positive and negative checklists is less skewed than in the earlier research on cancer patients.¹⁸ This can be explained by the fact that our research was carried out within a general population. In a small scale study on the quality of life of cancer patients it was shown that a general population has fewer extreme scores on both dimensions than a group of cancer patients.³³ The fact that the distribution of the negative checklist was more skewed to the left than the positive list, is confirmed by findings of other studies.³⁴ It is not clear whether this finding reflects a tendency to under-report negative experiences, or a low frequency of negative compared with positive social experiences. Secondly, the answers on the item "excessive concern" (item 10) diverge from the general pattern. Contrary to the other negative items, "excessive concern" is also related to the items measuring positive experiences. "Excessive concern" has both a positive and a negative emotional value, in particular for older people. Tempelaar *et al*,¹⁹ who reported similar findings in cancer patients, suggested the removal of the item on "excessive concern" from the checklist in future research. They proposed to add a new item ("did you experience in your contacts with other people during the previous week that they let you down"). This item is supposed to reflect presence in a negative way. Thirdly, the overall response rate is rather low in our study. Despite this fact, we were able to collect data on a very large number of respondents. Since this number is so large (also within sub-categories of gender, age, and education), we do not expect that our results will be biased because of selective non-response. Furthermore, the number of respondents who did not answer all the items on social experiences is a little over 10%. This number is quite low considering the number of items that the scale includes (16).

Finally, we want to discuss matters related to the validity of our scale. One way to determine construct-validity of a scale is to test the relationship between the scale and other concepts, according to theoretically or empirically derived expectations. Based on previous research¹⁹ we expected a negative correlation of neuroticism with positive social experiences, and a positive correlation with negative social experiences. Positive social experiences were also expected to relate to active coping.³¹ In our data, these relationships were confirmed. For further validation of the SEC, we suggest

a study of social experiences in relation to other concepts in the field of characteristics of social contacts as described by Schwarzer and Leppin.⁷ Unfortunately, we have no data available on these concepts (behavioural support, type-, quantity- and structure of social contacts).

Although a number of scales on social support in the English language existed by the time The Netherlands monitoring project on cardiovascular disease risk factors started,³⁵ there was no valid Dutch scale available. It was therefore questionable whether it would be possible to use the SEC for this purpose in a general population, since this scale was only used and validated in The Netherlands in research on cancer patients.^{18,19} Our results showed that this instrument, originally developed for cancer patient studies, is useful within a general population as well. Whether social experiences are a predictor for incidence or survival of cardiovascular and other (chronic) diseases has to be established in the future.

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Appendix

THE SOCIAL EXPERIENCES CHECKLIST IN THE QUESTIONNAIRE OF THE NETHERLANDS MONITORING PROJECT ON CARDIOVASCULAR DISEASE RISK FACTORS

We will now ask you some questions about your contacts with other people. Can you give an indication how often you experienced certain reactions *during the previous month?*

Did you experience in your contacts with other people during the previous month:

Warmth and friendliness	never	sometimes	regularly	often	missing
Incomprehension	never	sometimes	regularly	often	missing
Esteem	never	sometimes	regularly	often	missing
That people were not willing to help you	never	sometimes	regularly	often	missing
That someone spent a pleasant time with you	never	sometimes	regularly	often	missing
That someone belittled you	never	sometimes	regularly	often	missing
That people did not give you enough information	never	sometimes	regularly	often	missing
Understanding and sympathy	never	sometimes	regularly	often	missing
Useful information or suggestions	never	sometimes	regularly	often	missing
Excessive concern	never	sometimes	regularly	often	missing
That someone avoided you	never	sometimes	regularly	often	missing
The help of someone	never	sometimes	regularly	often	missing
That someone did not take you seriously	never	sometimes	regularly	often	missing
That people did not leave you in peace	never	sometimes	regularly	often	missing
That someone trusted you	never	sometimes	regularly	often	missing
That someone took time to be with you	never	sometimes	regularly	often	missing