**Manual of the Loneliness Scale**
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***1 Preliminary remarks***

The Loneliness Scale was developed by De Jong Gierveld and colleagues. See for a program overview de Jong Gierveld (1985, 1989). The scale is available for scientific research programs, under the following conditions:
a. The source of the scale should be mentioned, i.e. this manual, or de Jong Gierveld and Kamphuis (1985) for the 11-tem version; de Jong Gierveld and van Tilburg (2006) for the 6-item version; or van Tilburg and de Jong Gierveld (1999) for the cut-off points in the 11-item scale.
b. The scale may be used in survey research (by means of face-to-face interviews, telephone interviews, self-administered (mail) questionnaires, as well as in electronic data collection).
c. The scale was developed for use in scientifically based survey research. For example, the use of the scores in this type of research is aimed at calculating an average score across hundreds or thousands of interviewees. Although the instruments have been carefully designed and much research has been done on their usefulness, it is not known whether they are also applicable for determining whether or not individuals are lonely. Therefore, it is not permissible to use these instruments for such an application without consultation.

***2 The scale items***

The scale may be used in face-to-face interviews, telephone interviews, self-administered (mail) questionnaires, as well as in electronic data collection. We recommend that the scale be presented somewhere in the middle of the interview or questionnaire; that is, at a moment when a considerable degree of self-disclosure from the respondents may be expected. Ideally, questions about characteristics of the respondents' networks of social relationships should precede the scale items.

The scale consists of eleven items; six are formulated negatively and five are formulated positively.

|  |  |  |
| --- | --- | --- |
|  | English | Dutch  |
|   | Please indicate for each of the 11 statements, the extent to which they apply to your situation, the way you feel now. Please, circle the appropriate answer. | Wilt u van elk van de volgende uitspraken aangeven in hoeverre die op u, zoals u de laatste tijd bent, van toepassing is? Omcirkel het antwoord dat op u van toepassing is. |
| 1 | There is always someone I can talk to about my day-to-day problems | Er is altijd wel iemand in mijn omgeving bij wie ik met mijn dagelijkse probleempjes terecht kan |
| 2 | I miss having a really close friend | Ik mis een echt goede vriend of vriendin |
| 3 | I experience a general sense of emptiness | Ik ervaar een leegte om me heen |
| 4 | There are plenty of people I can lean on when I have problems | Er zijn genoeg mensen op wie ik in geval van narigheid kan terugvallen |
| 5 | I miss the pleasure of the company of others | Ik mis gezelligheid om me heen |
| 6 | I find my circle of friends and acquaintances too limited | Ik vind mijn kring van kennissen te beperkt |
| 7 | There are many people I can trust completely | Ik heb veel mensen op wie ik volledig kan vertrouwen |
| 8 | There are enough people I feel close to | Er zijn voldoende mensen met wie ik me nauw verbonden voel |
| 9 | I miss having people around me | Ik mis mensen om me heen |
| 10 | I often feel rejected | Vaak voel ik me in de steek gelaten |
| 11 | I can call on my friends whenever I need them | Wanneer ik daar behoefte aan heb kan ik altijd bij mijn vrienden terecht |

|  |  |  |
| --- | --- | --- |
|  | French  | Italian |
|   |  | Sono finite le domande sul suo passato. Ora seguono 11 affermazioni sulle sue attuali esigenze. Vuole dirmi, per ognuna di queste, se la condivide e quanto? Può rispondere solo con 'no' 'più o meno' o 'si'. |
| 1 | Il y a toujours quelqu’un autour de moi avec qui je peux causer de mes petits problèmes. | Quando ho un problema c'è sempre un vicino con cui posso parlarne |
| 2 | Je n’ai pas de véritable ami(e) et ça me manqué | Mi manca un buon amico o una buona amica |
| 3 | J’éprouve un sentiment général de vide | Mi sento solo |
| 4 | Je peux m’appuyer sur suffisamment de personnes en cas de problème | Ci sono diverse persone a cui posso rivolgermi in caso di necessità |
| 5 | Je n’ai pas de compagnie agréable autour de moi et ça me manqué | Mi manca un'atmosfera calda ed accogliente |
| 6 | Je trouve que le cercle de mes relations est trop limité | Penso di avere pochi conoscenti |
| 7 | Il y a beaucoup de personnes sur lesquelles je peux vraiment compter | Ci sono tante persone di cui mi posso fidare completamente |
| 8 | Il y a suffisamment de personnes dont je me sens proche | Ci sono diverse persone a cui mi sento legato |
| 9 | Je regrette de ne pas avoir plus de monde autour de moi | Mi manca la presenza di altre persone intorno a me |
| 10 | J’ai souvent l’impression d’être tenu(e) à l’écart | Spesso mi sento abbandonato |
| 11 | En cas de besoin, je peux toujours compter sur mes amis | Posso andare dai miei amici ogni volta che voglio |

|  |  |  |
| --- | --- | --- |
|  | German | Polish (Grygiel et al., 2013) |
|   |  |  |
| 1 | Es gibt immer jemanden in meiner Umgebung, mit dem ich die alltäglichen Probleme besprechen kann | Zawsze jest ktoś z kim mogę porozmawiać o codziennych problemach |
| 2 | Mir fehlt eine richtig gute Freundin / ein richtig guter Freund | Brak mi naprawdę bliskiego przyjaciela |
| 3 | Ich fühle eine allgemeine Leere | Doświadczam ogólnej pustki |
| 4 | Es gibt genug Menschen, auf die ich mich bei Problemen stützen kann | Jest wiele osób, na których mogę polegać gdy mam problemy |
| 5 | Ich vermisse Geborgenheit und Wärme | Brak mi towarzystwa innych ludzi |
| 6 | Ich finde, daß mein Freundes- und Bekanntenkreis zu klein ist | Czuję, że mam zbyt ograniczony krąg przyjaciół i znajomych |
| 7 | Ich kenne viele Menschen, auf die ich mich wirklich verlassen kann | Jest wiele osób, którym mogę całkowicie zaufać |
| 8 | Es gibt genügend Menschen, mit denen ich mich eng verbunden fühle | Jest wystarczająco dużo osób, z którymi czuję się blisko związany |
| 9 | Ich vermisse Menschen um mich herum | Brakuje ludzi wokół mnie |
| 10 | Ich fühle mich oft im Stich gelassen | Często czuję się odrzucony |
| 11 | Wenn ich es brauche, sind meine Freunde immer für mich da | Mogę liczyć na przyjaciół gdy tylko tego potrzebuję |

Possible answers are "yes!", "yes", "more or less", "no", "no!" ( "ja!", "ja", "min-of-meer", "nee", "nee!"). When face-to-face interviews or telephone interviews are conducted, it may be sufficient to offer the respondents only the answers "yes", "more or less" and "no".

***3 Loneliness model***

The development and testing of an explanatory loneliness model were described in de Jong Gierveld (1987); see also de Jong Gierveld et al. (2018). The model is based on the so-called cognitive theoretical approach to loneliness. Characteristic of this approach to loneliness is the emphasis on the discrepancy between what one wants in terms of interpersonal affection and intimacy, and what one has; the greater the discrepancy, the greater the loneliness. Background characteristics (such as marital status, sex and living arrangements), descriptive characteristics of the social network, number and frequency of contacts with network members, and personality and health were identified as important loneliness-provoking factors. Other factors were found to be of crucial importance as well, such as social norms and values, expectations of support associated with certain relationships, and the positive or negative evaluation of the network of relationships-as-realized.

***4 Development of the scale***

The conceptualization of loneliness drew upon the cognitive approach to loneliness. In this approach, loneliness is seen as a subjective experience and is, as such, not directly related to situational factors. Loneliness, or subjective social isolation, is defined as a situation experienced by the participant as one where there is an unpleasant or inadmissible lack of (quality of) certain relationships. The importance of social perceptions and evaluations of one's personal relationships is emphasized. Loneliness includes situations where the number of existing relationships is smaller than desirable or acceptable, as well as situations where the intimacy wished for has not been realized (de Jong Gierveld et al., 2018).
Originally, a 34-item multidimensional scale of loneliness was developed (de Jong Gierveld, 1984; de Jong Gierveld & Raadschelders, 1982). In developing the scale, the researchers started with a content analysis of accounts written by 114 lonely people about their experiences. Next, items derived from the accounts were tested in a pilot investigation under 59 women and men. A revised set of items was included in a questionnaire which was administered by means of semi-structured face-to-face interviews with 556 women and men. Because this 34-item scale was found to primarily measure severe feelings of loneliness, changes were made. An 11-item unidimensional scale was developed on the basis of 30 items, using data of unemployed, disabled, and employed men and women. The data were gathered by a self-administered questionnaire given to the respondents at the end of a face-to-face interview. The scale: (1) assessed severe feelings of loneliness as well as less intense loneliness feelings; (2) consisted of negative as well as positive items; and (3) represented a latent continuum of deprivation. In addition, the scale met the criteria of the dichotomous logistic Rasch model (de Jong Gierveld & Kamphuis, 1985).

***5 Psychometric properties***

Typically, a scale reliability in the 0.80 to 0.90 range is observed (Cronbach's alpha, KR-20 or rho). The homogeneity of the scale varies across studies, with Loevingers' *H* typically in the 0.30 to 0.50 range (higher when mail questionnaires were applied than in face-to-face interviewing), which is sufficient, but not very strong. The scale is discussed in Shaver and Brennan (1991).

***6 Methodological and substantial concerns***

*Differential item functioning* (DIF, also referred to as robustness). The results of a study by de Jong Gierveld and van Tilburg (1987) showed that the reliability and construct validity of the scale were sufficient in five research projects (using self-administered paper questionnaires as well as face-to-face interviews). Though not analyzed systematically, the different modes of data collection did not seem to influence the mean score of the scale. Striking similarities in mean scale scores (theoretical range 0-11) were found among people in comparable population categories. For example, among those who nominated their partners as their primary confidant and rated the relationship with that person as very intimate, the mean scale scores ranged from 1.9 to 2.1. The differences across the studies were not significant. Among those whose partner relationship did not meet the intimacy criteria, the mean scale scores ranged from 2.8 to 3.4. Again, the differences across the studies were not significant. Comparisons within each of the studies showed significant differences based on the intimacy of the partner relationship. Among those without a partner (who were either living on their own or were heads of single-parent households) the mean scale scores ranged from 3.2 to 4.1. For these respondents a number of significant differences were found across the various studies. The observed differences are probably attributable to the large degree of heterogeneity within that population category. Within each of the studies, the mean scale score of the respondents without a partner was significantly higher than that of the respondents with a partner, regardless of the reported intimacy of the relationship.
Data on the scale were re-analyzed to investigate the robustness of the scale (defined as invariance of item non-response, inter-item (scale) homogeneity, person scalability, item p-values and scale means) (van Tilburg & de Leeuw, 1991). The data were taken from six surveys. Variegated data collection procedures were used: three surveys with self-administered paper questionnaires, two surveys with face-to-face interviews, and one survey with so-called teleinterviews. In order to compare the properties of the loneliness scale, a relatively homogeneous category of respondents was selected: women between the ages of 25 and 65, who were living without a partner. An examination of the scale with regard to robustness showed that it was not robust for all five aspects. No evidence was found for the assumption that the use of a self-administered questionnaire would lead to high item non-response, higher than when using other data collection procedures. It was also assumed that in self-administered questionnaires or teleinterviews a better inter-item homogeneity and a better person scalability would be found than in studies with face-to-face interviews. The results were in line with this assumption. Further, it was believed that the absence of an interviewer would result in greater self-disclosure by the respondents and therefore in higher scale means. No supporting evidence was found for this assumption. In general, the results showed that the loneliness scale met the psychometric requirements of item non-response, scale homogeneity and person scalability.
In a study by de Leeuw (1992), three methods of survey research –face-to-face interviews, telephone interviews and mail questionnaires– were compared. Adjusted for a number of factors, the highest mean score was observed for the mail questionnaires (3.4), which differed from the mean scores for the face-to-face and telephone interviews (2.6 and 2.7, respectively). The explained variance was only .014.
In the previous studies, data collected with self-administered questionnaires and with face-to-face interviews were compared among different respondents. In the research programs "[Living arrangements and social networks of older adults](file:///X%3A%5Ct%5Cwww.lasa-vu.nl)" (LSN) (Knipscheer et al., 1995) and "[Longitudinal Aging Study Amsterdam](file:///X%3A%5Ct%5Cwww.lasa-vu.nl)" (LASA) (Deeg et al., 1993) different types of data collection were conducted among a subsample of 333 respondents. Three answering categories were applied in the face-to-face interviews. In the self-administered questionnaires, five answering categories were applied. For most of the respondents (n = 281), the sequence of the types of data collection was face-to-face, self-administered, face-to-face, self-administered, face-to-face, which seems to be an ideal design for comparing the two modes. In a multilevel regression analysis, controlling for the effect of time, the unstandardized regression coefficient (B) for the mode was 0.77 with a standard error of 0.08, indicating that there was a significantly higher loneliness score when self-administered questionnaires were used.
We may conclude that different modes of data collection, including a different number of answering categories, influence the mean score of the scale. This is in line with the observation by Sudman and Bradburn (1974) that, compared with interviews, the more anonymous and private setting in which mail surveys are completed, reduces the tendency of respondents to present themselves in a favorable light.

*Unidimensionality.* As reported above, the homogeneity of the scale is not very strong. When searching for more homogeneous subscales, two factors emerge (de Jong Gierveld & van Tilburg, 1991; van Baarsen et al., 2001; van Tilburg et al., 2004). The first, most homogeneous factor is the subscale of the negative items, the second is the subscale of the positive items. A subscale consisting of only negatively, or only positively formulated items may elicit response bias via either nay saying or yeah saying of the respondents. However, it may also be argued that these two factors reflect the dimensions of emotional and social loneliness, respectively, as suggested by Weiss (1973). In a study conducted by de Jong Gierveld and van Tilburg (1999), the subscales were used. They conclude that "the 11-item scale, a combination of the positive and negative subscales, has been frequently used in survey research and has been tested for response bias and controlled for unidimensionality and homogeneity of the total set of items. Depending on the research question of the study under consideration, we recommend the selection of either the positive and negative subscales separately, or the use of the 11-item loneliness scale."

*Dichotomizing the item scores.* The scale of answers we use is in principle dichotomous. We do not use a scale of answers with frequency or seriousness of feelings. In developing the scale, item response models like Rasch and Mokken (MSP) were applied to evaluate the homogeneity of the scale. In view of the available computer programs we had to dichotomize the item scores. It is assumed that the middle category 'more or less' indicates loneliness (de Jong Gierveld & Kamphuis, 1985). New releases of the computer programs allow multi-categorical item scores. However, the results of an analysis based on the data of 4,045 older adults, collected within the LSN research program using face-to-face interviews, showed that the scale scores (range 0-11) based on dichotomized item scores and the scale scores (range 11-33) computed as the sum of the three-category item scores correlated very strongly (*r* = 0.97). Furthermore, the results of an analysis based on the data of 2,976 adults aged 18 and older, also collected within the LSN research program but using self-administered questionnaires, showed that the scale scores (range 0-11) based on dichotomized item scores and the scale scores (range 11-55) computed as the sum of the five-category item scores correlated strongly (*r* = 0.87). We prefer the scale score based on dichotomous item scores, which facilitates comparison of the results with those of earlier studies.

*Comparison with the UCLA-loneliness scale.* de Jong Gierveld and van Tilburg (1991, 1992) have conducted a study among Dutch older adults in which the scores on the Loneliness Scale were compared with the UCLA-loneliness scale (Russell, 1996). The results showed that the Loneliness Scale was sufficiently reliable, but insufficiently homogeneous (see above), while the UCLA-loneliness scale did not prove to be a scale. The positive subscale of the Loneliness Scale correlated strongly with a 7-item subscale of the UCLA-loneliness scale. The negative subscale of the Loneliness Scale correlated relatively strongly with direct measures of loneliness, while the positive subscale of the Loneliness Scale and a 7-item subscale of the UCLA-loneliness scale correlated moderately with the direct measures. In a study by Gerritsen (1997) among Dutch young adults, a strong correlation was observed between the Loneliness Scale and the UCLA-loneliness scale. Both correlated more or less equally with two single, direct questions on loneliness.

***7 Processing the scale data***

[Manually](#processing_manually)
[By using the statistical package SPSS](#processing_spss)

***Processing the scale data manually***
*Step 1*
Count the neutral and positive answers ("more or less", "yes", or "yes!") on items 2, 3, 5, 6, 9, 10. This is the *emotional loneliness score*.
Count the missing values (i.e., no answer) on items 2, 3, 5, 6, 9, 10. This is the *missing emotional loneliness score*.
Count the neutral and negative ("no!", "no", or "more or less") answers on items 1, 4, 7, 8, 11. This is the *social loneliness score*.
Count the missing values (i.e., no answer) on items 1, 4, 7, 8, 11. This is the *missing social loneliness score*.
*Step 2*
Compute the total *loneliness score* by taking the sum of the *emotional loneliness score* and the *social loneliness score*.
*Step 3*
The *emotional loneliness score* is valid only if the *missing emotional loneliness score* equals 0.
The *social loneliness score* is valid only if the *missing social loneliness score* equals 0.
The total *loneliness score* is valid only if the sum of the *missing emotional loneliness score* and the *missing social loneliness score* equals 0 or 1.
*Step 4*
If desired, the total *loneliness score* can be categorized into levels. This is discussed [below](#cutoff).

***Processing the scale data by using the statistical package SPSS***
The following SPSS syntax commands serve as an illustration (comments are added in *italics*):

*Reading the raw data*:
data list file= 'lonely.dat' free / lone1 lone2 lone3 lone4 lone5 lone6 lone7 lone8 lone9 lone10 lone11.
variable labels
 lone1 'There is always someone I can talk to about my day-to-day problems / Er is altijd wel iemand in mijn omgeving bij wie ik met mijn dagelijkse probleempjes terecht kan'/
 lone2 'I miss having a really close friend / Ik mis een echt goede vriend of vriendin'/
 lone3 'I experience a general sense of emptiness / Ik ervaar een leegte om me heen'/
 lone4 'There are plenty of people I can lean on when I have problems / Er zijn genoeg mensen op wie ik in geval van narigheid kan terugvallen'/
 lone5 'I miss the pleasure of the company of others / Ik mis gezelligheid om me heen'/
 lone6 'I find my circle of friends and acquaintances too limited / Ik vind mijn kring van kennissen te beperkt'
 lone7 'There are many people I can trust completely / Ik heb veel mensen op wie ik volledig kan vertrouwen'/
 lone8 'There are enough people I feel close to / Er zijn voldoende mensen met wie ik me nauw verbonden voel'/
 lone9 'I miss having people around me / Ik mis mensen om me heen'/
 lone10 'I often feel rejected / Vaak voel ik me in de steek gelaten'/
 lone11 'I can call on my friends whenever I need them / Wanneer ik daar behoefte aan heb kan ik altijd bij mijn vrienden terecht'/.
formats lone1 to lone11 (f2).

*If a respondent has scored two or more missing values, the particular case has to be deleted from the analysis*:
count nmissing=lone1 to lone11 (-1).
select if (nmissing lt 2).

*For five-category responses and scale scores based on dichotomized item scores*:
value labels lone1 to lone11 5 'yes!' 4 'yes' 3 'more or less' 2 'no' 1 'no!' -1 'no answer'.
*The five-category responses must be transformed into dichotomous responses. Responses indicating a (certain) feeling of loneliness are assigned a score of one loneliness point. That is, if the response "more or less", "yes", or "yes!" is given to a negatively formulated item (item numbers 2, 3, 5, 6, 9, 10) or if the response "no!", "no", or "more or less" is given to a positively formulated item (item numbers 1, 4, 7, 8, 11), a scale point is assigned. Under this procedure, the "more or less" answers are not considered to be neutral answers, but indicators of loneliness. The other answers are assigned a zero score. Thus, in the case of extreme loneliness, a respondent can score a total of 11 loneliness points. The minimum score is 0. If a respondent has scored one and only one missing value, the response is not considered to be a loneliness indicator; thus no scale point is given for the item.*
count lone=lone1 lone4 lone7 lone8 lone11 (1,2,3) lone2 lone3 lone5 lone6 lone9 lone10 (3,4,5).
variable label lone 'loneliness <Scale de Jong Gierveld>'.
value labels lone 0'no loneliness' 11'severe loneliness'.
formats lone (f2).

*For three-category responses and scale scores based on dichotomized item scores*:
value labels lone1 to lone11 3 'yes' 2 'more or less' 1 'no' -1 'no answer'.
count lone = lone1 lone4 lone7 lone8 lone11 (1,2) lone2 lone3 lone5 lone6 lone9 lone10 (2,3).
variable label lone 'loneliness <Scale de Jong Gierveld>'.
value labels lone 0'no loneliness' 11'severe loneliness'.
formats lone (f2).

*For three-category responses and scale scores based on dichotomized item scores, and if emotional and social loneliness are studied as subdimensions of loneliness.*
value labels lone1 to lone11 3 'yes' 2'more or less' 1'no' -1'no answer'.
count loneemo = lone2 lone3 lone5 lone6 lone9 lone10 (2,3).
count lonesoc = lone1 lone4 lone7 lone8 lone11 (1,2).
value labels loneemo 0'no loneliness' 6'severe loneliness' -1'missing'.
value labels lonesoc 0'no loneliness' 5'severe loneliness' -1'missing'.
*To enhance the comparability of the scale scores, the ranges might be transformed to 0-10:*
compute loneemo= truncate(100\*(loneemo/6))/10.
compute lonesoc= truncate(100\*(lonesoc/5))/10.
value labels loneemo lonesoc 0'no loneliness' 10'severe loneliness' -1'missing'.
*A missing value is assigned to the scales if one of the items has a missing value:*
count misemo = lone2 lone3 lone5 lone6 lone9 lone10 (-1).
count missoc = lone1 lone4 lone7 lone8 lone11 (-1).
if (misemo>0)loneemo=-1.
if (missoc>0)lonesoc=-1.
variable labels loneemo 'emotional loneliness <Scale de Jong Gierveld>' / lonesoc 'social loneliness <Scale de Jong Gierveld>'.
missing values loneemo lonesoc (-1).
formats loneemo lonesoc (f2).

*For five-category responses and scale scores based on multi-category item scores*:
value labels lone1 to lone11 5 'yes!' 4 'yes' 3 'more or less' 2 'no' 1 'no!' -1 'no answer'.
missing values lone1 to lone11 (-1).
*The remaining missing values are replaced by the sample mean:*
rmv /lone1=smean(lone1) /lone2=smean(lone2) /lone3=smean(lone3) /lone4=smean(lone4) /lone5=smean(lone5) /lone6=smean(lone6) /lone7=smean(lone7) /lone8=smean(lone8) /lone9=smean(lone9) /lone10=smean(lone10) /lone11=smean(lone11).
*By subtracting the scores on positive items from 6, the scores are reversed*:
compute lone= 6–lone1+lone2+lone3+6–lone4+lone5+lone6+6–lone7+6–lone8+lone9+lone10+6–lone11.
variable label lone 'loneliness <Scale de Jong Gierveld>'.
value labels lone 11'no loneliness' 55'severe loneliness'.
formats lone (f4.1).

*For three-category responses and scale scores based on multi-category item scores*:
value labels lone1 to lone11 3 'yes' 2 'more or less' 1 'no' -1 'no answer'.
missing values lone1 to lone11 (-1).
rmv /lone1=smean(lone1) /lone2=smean(lone2) /lone3=smean(lone3) /lone4=smean(lone4) /lone5=smean(lone5) /lone6=smean(lone6) /lone7=smean(lone7) /lone8=smean(lone8) /lone9=smean(lone9) /lone10=smean(lone10) /lone11=smean(lone11).
compute lone= 4–lone1+lone2+lone3+4–lone4+lone5+lone6+4–lone7+4–lone8+lone9+lone10+4–lone11.
variable label lone 'loneliness <Scale de Jong Gierveld>'.
value labels lone 11'no loneliness' 33'severe loneliness'.
formats lone (f4.1).

*For scale scores based on three-category dichotomized item scores, one might use a further categorization of the scale scores, based on cut-off points proposed by Van Tilburg & De Jong Gierveld (1999)*:
recode lone (0 thru 2=0)(3 thru 8=1)(9,10=2)(11=3) into lonecat.
variable label lonecat '4 categories of loneliness'.
value labels lonecat 0 'not (0-2)' 1 'moderate (3-8)' 2 'severe (9-10)' 3 'very severe (11)'.
formats lonecat (f1).
recode loneemo (0 thru 2=0)(3 thru 6=1) into loneemocat.
recode lonesoc (0 thru 2=0)(3 thru 5=1) into lonesoccat.
formats loneemocat lonesoccat (f1).
variable label loneemocat 'categories of emotional loneliness' / lonesoccat 'categories of social loneliness'.
value labels loneemocat 0 'not lonely (0-2)' 1 'lonely (2-6)'.
value labels lonesoccat 0 'not lonely (0-2)' 1 'lonely (3-5)'.

***8 A short scale***

A 6-item version for overall, emotional and social loneliness has been developed because the length of the 11-item version has sometimes rendered it difficult to use the scale in large surveys. The construction and empirically testing is reported in De Jong Gierveld & Van Tilburg (2006). The selected items are:
3. I experience a general sense of emptiness
4. There are plenty of people I can rely on when I have problems
7. There are many people I can trust completely
9. I miss having people around me
8. There are enough people I feel close to
10. I often feel rejected
Whether to use the 11-item version or the shortened 6-item version of the loneliness scale is not a neutral decision. Whereas studies detailing the prevalence of loneliness, or in-depth studies of loneliness among certain individuals, as well as research into the changing nature and impact of loneliness after specific life events may benefit from using the 11-item scale, the use of the shortened 6-item loneliness scale may be sufficient in other studies. In both cases, however, the researcher has a reliable and valid measuring instrument at hand, which can be used as a unidimensional overall loneliness measure as well as provide information about the emotional and/or social loneliness situation of respondents.

The SPSS-syntax is:
count lones= lone3 lone9 lone10 (2,3) lone4 lone7 lone8 (1,2).
count mlones= lone3 lone9 lone10 lone4 lone7 lone8 (sysmis, lo thru -1).
if (mlones>1)lones=-1.
count lonesocs= lone4 lone7 lone8 (1,2).
count mlones= lone4 lone7 lone8 (sysmis, lo thru -1).
if (mlones>0)lonesocs=-1.
count loneemos= lone3 lone9 lone10 (2,3).
count mlones= lone3 lone9 lone10 (sysmis, lo thru -1).
if (mlones>0)loneemos=-1.
missing values lones loneemos lonesocs (-1).
formats lones loneemos lonesocs (f2).
variable labels lones 'short loneliness scale (6 items)' / lonesocs 'short social loneliness scale (3 items)' / loneemos 'short emotional loneliness scale (3 items)'.
value labels lones loneemos lonesocs -1'missing'0'no loneliness (low score)'.
add value labels lones 6'severe loneliness (high score)'.
add value labels loneemos lonesocs 3'severe loneliness (high score)'.
recode lones (0 thru 1=0)(2 thru 4=1)(5,6=2) into lonescat.
variable labels lonescat 'categories of loneliness based on six-item scale'.
value labels lonescat 0 'not lonely (0-1)' 1 'moderate lonely (2-4)'2 'severe lonely (5-6)'.
formats lonescat (f2).
recode loneemos (0=0)(1,2,3=1) into loneemoscat.
recode lonesocs (0=0)(1,2,3=1) into lonesocscat.
formats loneemoscat lonesocscat (f1).
variable label loneemoscat 'categories of emotional loneliness' / lonesocscat 'categories of social loneliness'.
value labels loneemoscat 0 'not lonely (0)' 1 'lonely (1-3)'.
value labels lonesocscat 0 'not lonely (0)' 1 'lonely (1-3)'.

***9*** ***Cut-off points***

The loneliness scale was developed by De Jong Gierveld in order to have a valid instrument in survey research to measure variations in intensity of feelings of deprivation, i.e., the missing of social relationships. The scale score is used to compare the interviewees by giving them a position on an underlying continuum of not to very strong loneliness. In the presentation of research results, there is sometimes a need to display the scale score in categories, such as not and lonely, or not, moderate, strong and very strong lonely. In this note, cut-off points are proposed to arrive at these categories.

*The 11-item scale*

In a study by van Tilburg and de Jong Gierveld (1999), cut-off points for the oral data on the loneliness scale were based on the individuals' self-assessed levels of loneliness. More than would be the case with arbitrary cut-off points, this is in keeping with the individuals' own perceptions. The rationale behind the method used is that a categorization of the scale score should lead to an equal proportion (moderate or strong) of the population (or in the population from which the sample has been drawn) as the proportion of lonely people that appears from the answers to the direct question of loneliness: "If we were to classify people into not lonely, moderately lonely, strongly lonely, very strongly lonely, where would you now attribute yourself? Answers: not lonely, moderately lonely, strongly lonely, very strongly lonely". We call this the prevalence criterion.
Because of the much better psychometric properties (including reliability and validity), use of the scale score for loneliness is preferable to using the answers to the direct question of loneliness. Based on cut-off points of 3 (to distinguish between lonely people and not lonely people), 9 (between severely or quite lonely people and others) and 11 (between severely lonely people and others), the figures showed that 68% of the elderly in the Netherlands are not lonely, 28% are moderately lonely, 3% are quite lonely and 1% are extremely lonely. Because in average samples of the older population, interviewees rarely call themselves very strongly lonely, we generally summarize the two highest categories. The proposed cut-off points are tentative ones. This classification has yet to prove its worth in actual practice. In addition, cut-off points are related to the specific culture and point in time.

*Subscales for emotional and social loneliness*

Application of the prevalence criterion to the subscales poses problems:

* The two subscales for emotional and social loneliness contain six and five items respectively, so that there is no mutual symmetry.
* An equal cut-off point for both subscales can never result in a comparable score on the 11-item scale. The prevalence criterion may work for each of the subscales separately, but not very well combined.
* With the same system as used for the 11-item scale, there is the problem that the direct measurement of loneliness is better related (i.e., has a higher correlation) to the score for emotional loneliness than to that for social loneliness (van Tilburg, 2021). It is therefore less justifiable to use the prevalence criterion method to establish a cut-off point for social loneliness.
* Based on the prevalence criterion, we choose scores 0-2 as indicative for not emotionally lonely, and scores 3-6 as indicative for emotionally lonely. We do not make a distinction here between moderate and strongly emotionally lonely. Arbitrarily, we opt for a similar cut-off point for social loneliness: we consider the scores 0-2 as not socially lonely, and the scores 3-5 as socially lonely.
* With these cut-off points a higher threshold is used on the subscales than on the total scale; after all, an interviewee is 'only' socially and emotionally lonely with scores equivalent to the score of 4 (and not 3) or higher on the 11-item scale.

*The shortened scale of six items*

If the same system is used as for the 11-item scale, then the cut-off point for the six-item scale is: 0-1 = not lonely; 2-4 = moderately lonely; 5-6 = strongly lonely.

There are two short scales for emotional and social loneliness. Each scale has three items, and both scales have a range 0-3. Again, there is the problem that the scale for emotional loneliness is more closely related to the direct question of loneliness than the scale for social loneliness. Also applies that an equal cut-off point for both subscales does not result in a similar score on the shortened scale. Application of the prevalence criterion gives a dichotomy of 0 = not lonely and 1-3 = lonely for both short scales for emotional and social loneliness.

*Other considerations*

* Using the scale score for emotional and social loneliness (in any version) as an ordinal or continue measurement is often better than using a scale score in two, three or four categories.
* Originally the proposed cut-offs were developed in data collections since 1992 among adults 55 years and older. They were interviewed orally (computer assisted personal interviewing; CAPI). Three response alternatives were presented. Application in research with a different design or sample may give discrepancies.
* It cannot be ruled out that the determination of cut-off points on the basis of the prevalence criteria is sensitive to external influence, for example through the presence of an interviewer, and social developments in the field of loneliness as a taboo.

*Summary Table*

|  |  |  |  |
| --- | --- | --- | --- |
| Scale | # items | Range | Cut-off |
| De Jong Gierveld loneliness scale  | 11 | 0-11 | 0-2 not lonely3-8 moderately lonely9-11 strongly lonely |
| Subscale for emotional loneliness | 6 | 0-6 | 0-2 not emotionally lonely3-6 emotionally lonely |
| Subscale for social loneliness | 5 | 0-5 | 0-2 not socially lonely3-5 socially lonely |
| Short scale (6 items) | 6 | 0-6 | 0-1 not lonely2-4 moderately lonely5-6 strongly lonely |
| Short scale for emotional loneliness | 3 | 0-3 | 0 not emotionally lonely1-3 emotionally lonely |
| Short scale for social loneliness | 3 | 0-3 | 0 not socially lonely1-3 socially lonely |

***10 Reviews***

The Committee Test Affairs (Commissie Testaangelegendheden Nederland; COTAN) of the Netherlands Institute of Psychologists (Nederlands Instituut van Psychologen; NIP) assessed the quality of the Loneliness Scale on April 18, 2000 as follows *(*Documentatie van Tests en Testresearch in Nederland,2000):

|  |  |
| --- | --- |
| I. Basic assumptions of test construction:  | good |
| IIa. Quality of the test material: | sufficient |
| IIb. Quality of the manual: | sufficient |
| III. Norms: | sufficient |
| IV. Reliability: | good |
| Va. Content validity: | sufficient |
| Vb. Criterium validity: | insufficient due to absence of research |

The Dutch GGD’s (regional health services) have the Loneliness Scale adopted (October 2, 2006) as one of their standard assessments of social functioning of older adults. See [www.ggdkennisnet.nl](http://www.ggdkennisnet.nl/kennisnet/paginaSjablonen/raadplegen.asp?display=2&atoom=38412&atoomsrt=2&actie=2).

The UCLA and De Jong Gierveld scales were compared in a study by Penning et al. (2014).

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