

The SELE sentence completion questionnaire: A new instrument for the assessment of personal meaning in research on aging

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In this paper, the SELE-instrument is presented. The SELE-instrument is a sentence completion test and an accompanying coding scheme, which is designed to study cognitions about self and life. The related theoretical construct is the personal meaning system, which encompasses different meaning domains, like «self», «activities» and «social relations», as well as evaluations and time perspectives. It is argued that especially in aging research, it is necessary to use more open instruments in studying self- and life-cognitions. A short history of sentence completion instruments in psychology is presented in order to better understand the specific contents of the SELE-instrument. The SELE provides sentence stems in the first form singular («I») in combination with verbal functors, which express different combinations of evaluation and time perspective, to which the respondents have to react in their own words. The SELE-instrument is thus a semi-structured questionnaire, which can be used in large-scale research. The sentence completions are coded with an extensive coding scheme, which is hierarchially and dimensionally organized. Some figures on the coding reliability as well as on the validity and stability of the instrument are presented. The different uses to which the SELE-instrument has been put are described shortly.

Key words: Self-concept Measurement; Qualitative Methodologies; Gerontology

En este artículo se presenta el instrumento SELE. Este instrumento, que consta de un cuestionario de frases incompletas y un esquema de codificación de respuestas, está diseñado para el estudio de las cogniciones sobre el self y la vida. El constructo teórico al que se aproxima es el sistema de significado personal, sistema que comprende tanto diferentes dominios de significado (por ejemplo el «self», «actividades» o «relaciones sociales») como evaluaciones y perspectivas temporales. Se argumenta

que, especialmente en la investigación en envejecimiento, es necesario utilizar instrumentos de carácter más abierto para el estudio de cogniciones relacionadas con el self y la vida. Por otra parte, para entender mejor los contenidos específicos del SELE, se presenta una breve historia de los instrumentos de frases incompletas en Psicología. El SELE proporciona estímulos en forma de frases incompletas a los que la persona tiene que contestar en sus propias palabras. Estos estímulos comienzan con un sujeto en primera persona del singular («Yo») seguido por una forma verbal que expresa diferentes combinaciones de perspectiva temporal y evaluación. Debido a este formato, el SELE es un cuestionario semiestructurado que puede ser utilizado en investigaciones a gran escala. Las respuestas se categorizan mediante un exhaustivo sistema de codificación que está organizado tanto jerárquica como dimensionalmente. En el artículo se presentan algunos resultados en relación con la fiabilidad, la validez y la estabilidad del cuestionario, así como también se describen brevemente los diferentes usos a los que ha estado dirigido el SELE.

Palabras clave: Medida del autoconcepto, metodologías cualitativas, gerontología.

Most psychological studies on self-concepts are carried out on child or adolescent populations and make use of closed instruments, like the often used self-esteem scales (Blascovich and Tomaka, 1991). Some instruments have been used or adapted to measure self-concepts in adulthood and old age, assuming that the same structure and function of the self-concept are found irrespective of age. A rather consistent finding of these studies has been, that self-esteem does not change much with age. People have been found to make use of different cognitive strategies, which help them in maintaining self-esteem despite large changes in life contexts (e.g. Brandstädter and Greve, 1994).

However, judgements of one's own body, of one's own potentials and weaknesses, as well as one's motivations and time perspectives cannot rest at the stage of youth or young adulthood when many aspects of life have changed. Individuals will somehow take the many age-related biological, psychological and social changes into account in their self-representations. Although cross-sectional in nature, some psychological studies have shown that large differences in self-representations do exist throughout the life course (Bouffard, Bastin and Lapierre, 1996; Cross and Markus, 1991; Ryff, 1991; Freund, 1995; Dittmann-Kohli, 1995; Lapierre, Bouffard and Bastin, 1993).

Since old age has a much shorter research tradition and is a historically rather new period of life, it is difficult to predict beforehand the changes in self-concepts which will occur in later life. Hence, as in other areas of gerontology, the use of qualitative methods seems justified (cf. Abel and Sankar, 1995; Hendricks, 1996; Rubinstein, 1992). In studying the aging self a qualitative method has the advantage that not all meanings of the self are predetermined by the researcher. Instead, respondents may answer in their own words (Westerhof, 1994), using self-schematic cognitions (Markus, 1983). We were interested in developing a method which combines these advantages of qualitative research

with the possibility of applications in large-scale survey research. Since open-ended questions have disappeared almost completely from survey research (Converse and Schuman, 1984; Smith, 1987; but see Geer, 1988, 1991 and Van Holsteijn, 1994 for recent exceptions), it appeared interesting to re-introduce an open method: the SELE-instrument (an acronym of the German *Selbst* and *Leben*, *i.e.* self and life). The SELE-instrument consists of 28 sentence stems which respondents are asked to complete, as well as an extensive coding scheme. The combination of standardization of the sentence stems and the openness of the sentence completions makes it suitable for the study of self-related cognitions, as expressed by the respondents themselves, even in large-scale survey research.

Personal Meaning System

The SELE-instrument is tied closely to the concept of the «personal meaning system» (Dittmann-Kohli, 1995). This term broadens the traditional psychological concept of the self with a broader concept of motivations in life. In order to study aspects of self-representations beyond self-esteem, we take as a starting point the idea of the self as a semiotic subject (Shweder and Sullivan, 1990). In other words, we see the person as an active seeker of meaning in life. From this perspective, self-esteem is just one aspect of the personal meaning system. Other aspects of the person and the world he or she is living in are also represented in the personal meaning system, but only in so far as they are relevant or *central* to the self. Hence, the personal meaning system encompasses different *meaning domains*: psychological and physical self, activities, social relationships, material living conditions and societal living arrangements as well as aging, lifetime and life in general (Dittmann-Kohli, 1995). Just like self-evaluation is often seen as one of the main aspects of the self, the other domains of the personal meaning system can also be associated with *evaluations* (positive-negative-neutral). All meaning domains can furthermore be tied to a *time perspective* (past-present-future; see Gergen and Gergen, 1987; Nuttin and Lens, 1985). In short, the personal meaning system has three dimensions: meaning domain, evaluation and time.

Like the self-concept, the personal meaning system is seen as a cognitive representational structure in long-term memory. Psychologists conceptualize these structures as self-schemata, self-knowledge or social cognitions about the self. They are interested especially in the dynamics of the self-concept at the expense of the study of meaning (Bruner, 1990). Studies on the meaning of self and life have focused mainly on the expression of meaning in texts (Shotter and Gergen, 1989). Following this perspective, we assume that the specific meanings of self and life are related to the material, social and cultural structures one is living in (*cf.* Bruner, 1990) as well as to the body and its functioning (*cf.* Kempen, 1996). It can therefore be expected that age-related changes are represented in the personal meaning system.

Short history of sentence completion methods in psychology

Sentence completion methods have been used before in the study of the meaning of self and life. Looking back into the history of sentence completion methods, the early applications lie in clinical settings, where they were used as a projective methodology. Psychiatric groups were differentiated for example in their tendencies to respond with self-referencing as opposed to other-referencing contents (Exner, 1973). Another use of this method was to construct a more handy substitute for the TAT in measuring achievement motivation (French, 1958). The sentence completion method is also widely known as a measure for the stages of ego-development by Loevinger and Wessler (1970). All of these studies have in common, that they did not ask the respondent directly about his or her motives and thinking styles, since this was thought to result in distorted answers vis à vis an interviewer. Instead, a person should express himself or herself freely about topics that seem not threatening. It was thought to be the task of the researcher to reconstruct the underlying motives and concepts.

In our instrument, this methodological strategy is no longer pursued. The sentence stems are open and direct in content and the respondents are asked to report what they think is true of themselves and their lives. The answers are coded according to the meaning which was expressed by the respondent and not according to a psychological interpretation of deeper motivations. Sentence completion tests have been used in this way in research on aging. All of these studies showed large differences in self- and life-concepts across the lifespan. Carp (1967a, 1967b) employed a sentence completion test to learn more about applicants for old age homes. Using a content analysis which consists of inductively derived categories, he found a set of qualitative as well as quantitative differences in self-descriptions between these applicants and a group of students. Shimonaka and Nakazato (1980, 1986) used Carp's instrument to compare age groups in Japan over the whole life span. For most of the items they only coded the affective or evaluative direction, however, thus leaving out much information which might have provided interesting cross-cultural knowledge on aging. Freund (1995) used the «Who am I?» test (Bugental and Zelen, 1950) in a study on elderly of 70 years and older. This test consists of 10 identical sentence stems («I am...») and is used to study self-definitions. The sentence completion task, which comes closest to the SELE-instrument is the «Motivational Induction Method» (MIM) developed by Nuttin (1984) and used in aging research (Lapierre, Bouffard and Bastin, 1993; Bouffard, Bastin and Lapierre, 1996). In contrast to the MIM, however, the SELE does not only use sentence stems which refer to future time perspective, but also to present and past cognitions about self and life.

The structure of the SELE-inductors

The SELE-instrument consists of 28 sentence stems, or inductors, as well as a fine-grained coding scheme. Since the instrument relies entirely on language

use, some principles of language content and structure are helpful in understanding the method. As we are interested in self-relevant cognitions and we assume that the person is an active meaning-giver, it is logical to use the first form singular as the subject of the sentence stems («I...»). Besides the «I» as a meaning-giving actor in these sentence stems, the self can also be found as the object in the sentence completions, *i.e.* as the self-reflexive «me».

Besides the «I» as the subject of the sentence stem, each sentence stem provides a verbal functor (Nowakowska, 1973), which expresses the psychological modus or relationship between the «I» as agent and the object. In describing these modi, Searle (1983) distinguishes between desires (final or telic expressions, like intentions, goals or wishes) and beliefs (statements about facts or probabilities). In psychological terms, these correspond roughly with «real» selves and «possible selves» (Markus and Nurius, 1986). In the SELE-inductors, desires are found for example in «I plan...» or «I would like...». Beliefs are found in inductors like «When I think about myself...», «I have found that I...», «I am proud, that...».

In contrast to Searle (1983), Nowakowska (1973) integrates desires and beliefs, arguing that all speech is motivated. In her conception, all functors reflect some aspect of the motivational space of a person. Even «epistemic» functors, which come closest to Searle's beliefs, reveal an aspect of a person's motivational space. Hence, it can be argued that all SELE-sentence completions are motivated. In fact, this is what we mean by saying that the personal meaning system consists of cognitions, which are self-relevant or central to the self.

The psychological modus, which is thus expressed in verbal functors, often implicitly carries an evaluation in it. Inductors using functors like «fear», «difficult», or «annoy» have negative valuations, whereas inductors using functors like «proud», «importance», «intend» carry positive valuations. Other inductors, however, leave open the evaluative dimension of the personal meaning system for the respondent to answer (for example «I have found, that I...», «I often feel...», «Later, when I'm older...»). Similarly, some inductors specify a *time* perspective (*e.g.* future in «In the next years...»; presence in «I often feel...»; past in «When I look at my past life, I regret ...»), whereas others leave the time perspective open (*e.g.* «I have noticed that I...» induces answers about past events or present states). Hence, by the use of the first person singular in combination with a verbal functor, the SELE-inductors can be classified according to their evaluative and temporal direction (see Table 1).

The SELE-inductors leave open the meaning domains for the respondents to fill out. If a meaning domain would be presented (*e.g.* «My family...»), most respondents associate only an evaluation («...is good, ok, not so good» etc.). Since these kinds of responses are easier and better elicited with a closed question, these sentence constructions are not used. The only exception is given by «My body...», since this is an aspect of the self, which has received only limited attention in the psychological literature on self-concepts (Banaji and Prentice, 1994).

The inductors of the SELE-instrument have been tested in a series of studies (Dittmann-Kohli, 1995; Porst, Schneid, Steinleitner, and Westerhof, 1995a,

TABLE 1. OVERVIEW OF THE INDUCTORS

Time	EVALUATION		
	Positive	Negative	Neutral
<i>Present</i>	1 I am quite good at... 6 Most important for me is... 13 I feel really good... 4 I am proud that...	3 It is difficult for me... 5 My weaknesses are... 7 It annoys me... 19 What's been bothering me recently is... 25 I feel rather miserable when...	10 I often feel... 16 My body... 23 In comparison to others... 9 Compared to the past...
<i>Future</i>	14 I intend to 21 I plan to...	17 I am afraid that I... 24 I fear that...	11 In the next few years... 15 Later, when I am older...
<i>Past</i>		27 When I look at my past life, I regret...	
<i>Neutral</i>	2 I would like to... 18 It would be nice if... 26 What I like about getting older...	22 What I don't like about getting older... 28 When I'm no longer capable of doing certain things...	8 When I think about myself... 12 I think, that I... 20 I have noticed that I...

1995b). Inductors, which were too specific (e.g. «When I feel lonely...» refers to a specific emotion) or which asked for too much psychological reflection («The goal of my mental development...») were left out. Furthermore, an earlier version of the SELE-instrument provided too much inductors referring to the future which resulted in nonresponse. In the present version of the instrument the number of future sentence stems is therefore more limited than the number of sentence stems in the present tense. Negative inductors also produced more often nonresponse than positive inductors. In order to produce as many valid negative sentence completions as positive ones the number of negative inductors is slightly larger than the number of positive inductors. Small variations in wording can also produce large differences. For example, «I am very proud...» resulted in more negations of being proud than the sentence stem «I am proud, that...». The present version of the SELE-instrument also focuses more on subjective theories about aging than prior versions.

In sum, the inductors present the self as meaning-giving agent («I») in combination with a verbal functor, which specifies the evaluative and temporal relationship between the «I» and the object the respondent is talking about. In the sentence completions those dimensions of the personal meaning system (domain, evaluation or time) are formulated by the respondents, which are not given in the inductor.

The structure of the coding scheme

A coding scheme has been developed, which serves to reduce and structure the information which is given by the respondent in the sentence completions. The coding scheme provides an extensive taxonomy of cognitions about self and life (see Table 2).

TABLE 2. OVERVIEW OF THE CODING SCHEME

MEANING DOMAINS			
<i>First level</i>	<i>Second level</i>	<i>Third level</i>	<i>Fourth level</i>
1 psychological self	1.1 self in general 1.2 character traits 1.3 emotions 1.4 motivation etc.	1.3.1 positive 1.3.2 negative	1.3.1.1 happy 1.3.1.2 satisfied etc. 1.3.2.1 unhappy 1.3.2.2 unsatisfied 1.3.2.3 lonely etc.
2 physical self			
3 life in general			
4 activities			
5 social relations			
6 material living conditions			
7 societal living arrangements			
Other dimensions: person, evaluation, modus, stability and change, time perspective			

Note: For all meaning domains, ramifications exist, like those shown of emotions under psychological self.

The coding scheme has been developed subsequently in different studies, adapting the categorical system Nuttin (1984) used in his MIM to the broader SELE-sentence completions (Dittmann-Kohli, 1995). The categories have been derived inductively through the study of a large number of sentence completions as well as deductively in order to make it possible to study aspects of cognitions of self and life which are psychologically and gerontologically interesting. The initial scheme has been simplified and systematized in two ways in order to make it possible to be used by coders, who are not educated in psychology and/or gerontology. First, it was tried to reduce the interpretation effort in coding

the sentence completion. Hence, like the semantic structure and content analysis developed by Fröh (1991), the scheme orients itself more to the expressions of the respondents themselves than to scientific concepts. This has the advantage, that the coding scheme is very flexible, but the disadvantage that reconstructions on the base of the codes have to be made in order to answer specific research questions. Second, the taxonomy of the coding scheme has been made hierarchical and dimensional. The hierarchical part of the coding scheme systematizes the different meaning domains of the personal meaning system: psychological self, physical self, life in general, activities, social relations, material living conditions and societal living arrangements. Each of these domains is structured in many subcodes and sub-subcodes, making it possible for coders to find their way through the different branches of the scheme from the most general level down to the most specific level of coding. The dimensional structure of the coding scheme represents the different dimensions of the personal meaning system (meaning domain, evaluation and time) as well as some other relevant axes: persons mentioned in connection to a meaning domain, specific psychological modi used by the respondent and processes of stability and change.

Psychometric characteristics of the instrument

Coding reliability

A test of the reliability of the coding of the answers by 6 independent coders showed a mean intercoder agreement of about 75% for the content code, with variations between inductors, codes and coders. For the first level of the content code and for the other dimensions, the mean intercoder agreement hovers around 87%. Given the complexity of the coding scheme (about 420 different codes) the figures for the content code are satisfactory, the other figures are good.

Validity

In a Dutch study, the convergent validity of the SELE-instrument with the Geriatric Depression Scale (GDS; Brink, Yesavage, Lum, Heersema, Adey and Rose, 1982) as well as with the Sense of Coherence Scale (SOC; Antonovsky, 1987) has been assessed. SELE-scores derived from the content coding of meaninglessness (a combination of content codes with evaluative codes) were found to be highly related to the GDS (spearman $\rho = .37$) and the SOC ($\rho = -.31$; Van Selm, submitted). A first analysis of the correlation between the SELE-codings for the evaluative dimension and the Satisfaction With Life Scale (SWLS; Pavot and Diener, 1993) showed a high correlation between SELE-scores and SWLS-scores ($r = .38$; Westerhof, 1996).

Stability

A small study was conducted in order to assess the stability of the sentence completions across time (Blotevogel, 1996). After 4 weeks, 17 subjects completed the SELE-instrument a second time. On the level of codings a mean agreement of 68% was found. Correlations of the frequency of a content category over all sentence stems at the first time with the corresponding frequency at the second time varied between .50 and .70. Correlations for the evaluative dimension were about .85. Except for the evaluative dimension, where the values were in the range of closed questionnaires for well-being or life satisfaction, the stability coefficients appear not high in comparison with standardized questionnaires.

In addition to these objective measures of stability, respondents were asked whether they could remember answers of the first time, whether the answers of the first time were still true and for how long these answers applied to themselves and their lives. On average, respondents remembered almost a quarter of their sentence completions. Respondents say that almost all sentence completions are still true: only two respondents indicated that 1 resp. 2 sentence completions did not apply anymore. Furthermore, 94% of the sentence completions was judged to be true for more than one year. About 40% of the answers applied longer than 20 years.

From this small study, it can be concluded, that respondents appear to have a large set of cognitions about self and life, which they hold to be true since a long time. Only a part of this set is reported in the SELE-sentence completion. Theoretically, this lends support for the concept of the «working self», which refers to that part of the self-cognitions, which are easily activated at a given point in time (Markus and Wurf, 1987). On the basis of cognitive psychological studies on the activation of cognitions from long-term memory, we assume that the sentence completions reflect cognitions, which have been activated more often and more recently and which are more elaborated.

The use of the SELE-instrument in aging research

Age comparative research

The first age comparative study using the SELE-instrument compared a sample of 300 young adults (aged between 17 and 30 with a mean of 23) with a sample of 300 elderly adults (aged between 60 and 90 with a mean of 74) (Dittmann-Kohli, 1995). This study showed very large and consistent differences between young and elderly adults. The similarities and differences confirmed the expectation that the subjective world of young and elderly adults were quite discrepant. Differences were found on all dimensions of the personal meaning system. For example, the elderly talk more about the physical self, they have more maintenance goals for the future and evaluate themselves somewhat more posi-

tively than the younger adults. The younger adults talk more about the (development of) the psychological self and about realizing achievement goals in school, work and partnership. More detailed studies have been conducted on the ways elderly maintain meaning in life (Dittmann-Kohli, 1990) and on the increase of the centrality of physical functioning, health and illness (Dittmann-Kohli, 1996).

Comparable Dutch data have been used in studies on meaninglessness (Van Selm, submitted) and on social bonds in women's lives (Stevens, Timmer and Katzko, submitted). Several smaller investigations have been conducted in the Netherlands using samples in old age homes and other institutions.

Cross-cultural research

In a cross-cultural research project, the SELE-instrument has been used in several countries: Germany, the Netherlands, USA, Zaire, Nicaragua and India. Cross-cultural studies analyzed individualistic versus collectivistic cognitions, comparing the Netherlands and Spain (Katzko, Steverink, Dittmann-Kohli and Herrera, submitted) as well as Zaire and USA (Westerhof and Dittmann-Kohli, submitted). Age-related cross-cultural differences are reported in Westerhof (1995) on Zaire and USA and in Westerhof and Dittmann-Kohli (submitted) on Zaire and the Netherlands.

Representative survey research

At the moment, a study is being carried out using the SELE instrument in a representative survey of the elderly and future elderly in Germany: the German Aging Survey (ages between 40 and 85 years; N=5000; see Dittmann-Kohli, Kohli and Künemund, 1995). A similar study is being planned in the Netherlands (N=1000; Steinleitner and Dittmann-Kohli, 1996). Besides the SELE-instrument, extensive sociological data will be collected in the German Aging Survey about living conditions, leisure and work activities, and social relations. Furthermore, standardized psychological instruments have been used on well-being, loneliness and subjective theories about aging. This study will provide many opportunities to further assess the validity and reliability of the SELE-instrument as well as the relations between socio-economic and cultural structures on the one hand and interpretations of self and life on the other hand.

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