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## The Sources of Meaning and Meaning in Life Questionnaire (SoMe): Relations to demographics and well-being

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Shortfalls of widely used measures of meaning in life are described. Their use results in biased correlations and restriction of the complexity inherent in experiences of meaning. To qualify results, the Sources of Meaning and Meaning in Life Questionnaire (SoMe) is employed. It offers separate scales to measure a positive and a negative dimension of meaning: *meaningfulness* – a fundamental sense of meaning and belonging, and *crisis of meaning* – the evaluation of life as frustratingly empty and lacking meaning. Both intercorrelate moderately ( $-.38/-.35$ ). Additionally, the SoMe assesses 26 sources of meaning. Based on a representative sample, relationships between meaningfulness, crisis of meaning, and sources of meaning with demographics are reported (Study 1). In Study 2, SoMe scales are correlated with positive (mood, satisfaction with life) and negative (neuroticism, anxiety, depression) indicators of well-being. SEM reveals that meaningfulness predicts positive well-being, but is *not* predictive of negative well-being. Crisis of meaning is a strong predictor for both positive and negative well-being.

**Keywords:** meaning in life; meaningfulness; crisis of meaning; purpose in life; scale construction; SoMe; existentialism; well-being

### Introduction

Not only with the establishment of positive psychology have relationships between meaning in life and well-being been investigated. Viktor Frankl posited a universal *will to meaning*, assuming that it is *the* basic interest of individuals to find meaning in life. He also claimed that a frustration of this will to meaning can result in symptoms and problems similar to those of psychological origin (Frankl, 1996). His assumptions have been investigated empirically in numerous studies. Many researchers employed the Purpose in Life (PIL) test, which is based on Frankl's theory and measures the degree to which an individual experiences purpose in life (Crumbaugh & Maholick, 1964). Crumbaugh, Raphael, and Schrader (1970) found a relationship of  $r = -.52$  between PIL and anxiety; PIL and neuroticism correlated at  $r = -.32$ . Pearson and Sheffield (1975) employed both the PIL and the Eysenck Personality Inventory; they published correlations of  $r = -.34/-.48$  between purpose in life and neuroticism for men and women. In a study by Harlow, Newcomb, and Bentler (1986), the PIL showed strong negative relationships with depression ( $r = -.65$ ), self-derogation ( $r = -.71$ ), and suicide ideation ( $r = -.55$ ). Edwards and Holden (2001) report similarly strong negative correlations between suicide ideation and PIL ( $r = -.53$ ) and Sense of Coherence (SOC) ( $r = -.46$ ).

Frankl's assumption that an absence of meaning in life is associated with negative well-being or even pathologic states thus seems to be supported by empirical data. Various studies also report positive relationships between meaning (PIL; Fulfillment and Framework scales of the Life Regard Index, LRI, and SOC) and measures of well-being (e.g. Debats, 1998; Zika & Chamberlain, 1992). Accordingly, 'the main view of the clinical work associating meaning in life and well-being is that psychopathology may arise from lack of meaning and, conversely, attainment of meaning is healing' (Scannell, Allen, & Burton, 2002, p. 94).

Drawing on Chamberlain (1988), Scannell et al. emphasize the necessity to link meaning to positive as well as negative measures of well-being, since 'positive and negative components of well-being are influenced by different factors and are not just opposite ends of a continuum' (2002, p. 95). The same should hold for the two components of meaning in life, *meaningfulness* and *crisis of meaning*. Nevertheless, the most widely used measures of meaning in life do not distinguish between both as two dimensions of experience. Meaning in life is conceived as a continuum from crisis of meaning to meaningfulness. Due to the conceptual interdependence of both variables, effects of (1) the experience of purpose or meaning, (2) the absence of

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meaning, and (3) a frustration of the will to meaning (a crisis of meaning) cannot be determined.

A second point worth considering is the common use of bi-polar items or scales because they might produce artificially high correlations with variables of negative well-being. Finally, these instruments have also been criticized for being confounded with positive and negative affect and satisfaction with life, thus the aspects of subjective well-being as defined by Diener (1984). Though criticism has been voiced by many authors, a qualification of findings regarding the relationship between meaning in life and subjective well-being is still due.

The Sources of Meaning and Meaning in Life Questionnaire (SoMe; Schnell, 2004, 2009; Schnell & Becker, 2006, 2007) contains two separate scales to measure meaningfulness and crisis of meaning, thus enabling researchers to correlate the absence and presence of positive as well as negative experiences of meaning with other psychological variables. Both scales are conceptualized as uni-polar, avoiding reverse-coded items. By using relatively narrow circumscriptions of the experiences of meaningfulness and crisis of meaning, they can be regarded as unconfounded 'pure' measures. Correlations between SoMe scales and measures of well-being show substantial deviations from previous findings; they thus contribute to a clarification of associations between qualities of meaning and well-being. Before the SoMe is introduced, shortfalls of PIL, LRI, and SOC are explained in detail.

### Confounded measures of meaning in life

The measures most often used in research on meaning in life are the PIL (Crumbaugh & Maholick, 1964), the LRI (Debats, 1998), and the SOC (Antonovsky, 1993), as a whole, or its subscale 'meaningfulness.' The availability of these instruments instigated numerous studies, even when meaning in life had little acceptance as a research subject. Each of them presented a new perspective and thus strongly contributed to the understanding of meaning in life. All of them show high internal consistencies.

Notwithstanding, they are confounded with psychological variables such as satisfaction with life, positive affect, depression, or boredom. The PIL has often been criticised (Dufton & Perlman, 1986; Dyck, 1987; Mascaro & Rosen, 2005; Mascaro, Rosen, & Morey, 2004; Schnell & Becker, 2006; Steger, Frazier, Oishi, & Kaler, 2006). It is known to be confounded with both depression and satisfaction with life. Half of the items of the SOC-subscale 'meaningfulness' centre on boredom and indifference to life. The LRI's subscale 'fulfillment' contains several items concerned with well-being and (dis-)satisfaction with

life (e.g. 'I really feel good about my life'; 'Nothing very outstanding ever seems to happen to me'). The 'framework' subscale overlaps with measures of depression ('I just don't know what I really want to do with my life'; 'I get completely confused when I try to understand my life').

Most of what we know today about relationships between meaning and well-being is based on studies employing one of these three measures. Though the problem of confounding is long-known, a qualification of flawed results has only just started. If meaningfulness is assumed to be a specific quality of experience, not exchangeable for interest in life, satisfaction with life, or absence of depression, a clean assessment of the construct is needed. 'Moreover, if meaning is worth investigating and measuring, it should not merely be a composite of other personality constructs, but rather have a degree of specificity and uniqueness' (Mascaro et al., 2004, p. 846).

### Simultaneous assessment of positive and negative aspects of meaning in life

Both PIL and SOC use bipolar items. For instance, the PIL asks for self-ratings regarding boredom vs. enthusiasm and despair vs. excitement. The SOC meaningfulness scale requests ratings with regard to interest vs. routine or boredom vs. satisfaction with life. The LRI consists of items with positive and negative content. This is a common strategy in item construction to reduce effects of acquiescence. However, recoded negative items do not necessarily measure the same as positive items. Several analyses of mixed-item scales have shown that factor structures represent item phrasing rather than item content (Benson & Hocevar, 1985; Greenberger, Chen, Dmitrieva, & Farruggia, 2003; Kelloway, Loughlin, Barling, & Nault, 2002; Pilotte & Gable, 1990; Rodebaugh, Woods, & Heimberg, 2007; Wong, Rindfleisch, & Burroughs, 2003). In many cases, inclusion of negative items thus adversely affects the validity of an instrument.

Moreover, as demonstrated by Clark and Watson (1995), any negative mood term shows high covariation with neuroticism: '... the inclusion of several such affect-laden items, in turn, ensures that the resulting scale – regardless of its intended construct – will be primarily a marker of neuroticism' (p. 8). While this sharing of common variance is somewhat acceptable for scales solely measuring negative states of experience, it creates difficulties when scales are meant to represent positive frames of mind, as is the case with the PIL, the SOC, and the LRI. High negative correlations found between PIL, SOC, LRI scales and negative affect (as in Zika & Chamberlain, 1992) should thus primarily be interpreted with regard to the

strong relationship between negative states of mood comprised by the measures of meaning, and negative affect. Instead, interpretations usually claim that the experience of meaning in life renders negative affect unlikely, or vice versa.

### Negation and contradiction

PIL and SOC employ bipolar items representing continua from despair to purpose, etc. They use grammatical antonymy and assume functional antonymy. As marked by several authors (cf. Riemann, 1990; Wishner, 1960), grammatical antonyms do not necessarily correspond to psychological opposites. Furthermore, aggregated scale values indicate a position on a continuum of two poles conceived as mutually excluding each other. High values represent meaningfulness or purpose, low values stand for a conglomerate of despair, boredom, emptiness and crisis of meaning. Assessment of a mere absence of meaning is only possible through choice of a middle value, which is difficult to interpret, since it can mean 'neither X nor Y,' 'equiproportionately X and Y,' 'disproportionately X and Y,' 'simultaneously wholly X and wholly Y' and many more items (according to Yorke, 2001, there are 15 possible midpoints of bi-polar scales).

As Yorke (2001) notes, Blanché's (1957) analysis of contraries and contradictions shows the shortfalls of bipolar scales. Blanché questions the classical design of opposition as used in bipolar scales and proposes 'a six-term logic in which both contraries and contradictions have a third term standing in opposition to each' (Yorke, 2001, p. 180). Figure 1 depicts the six-term notion transferred to the construct of meaning in life.

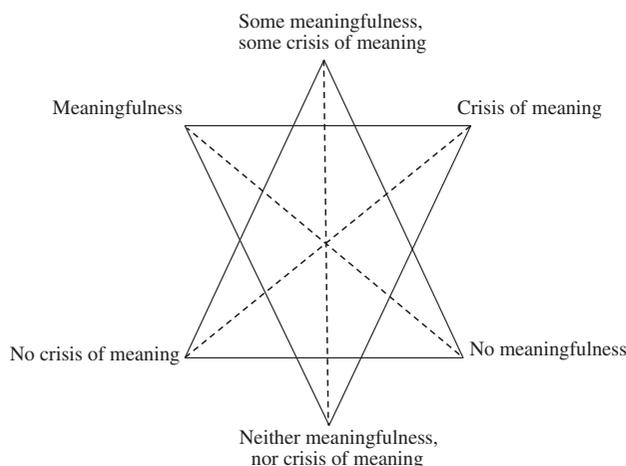


Figure 1. Six-term notion of meaning in life. Triangles: contradictions; broken lines: contraries.

'Meaningfulness' and 'No meaningfulness' are negating each other, as do 'Crisis of meaning' and 'No crisis of meaning.' For both contraries, grading and middle-points are conceivable, as clarified by Bonfiglioli (2008, p. 110): 'As well known, the possibility of having a *meson*, i.e., an intermediate, is peculiar to some species of contraries, the gradable ones, and distinguishes contrariety from contradiction.' 'Meaningfulness' and 'Crisis of meaning' are contradictions. There is no gradable transition from one to the other; both describe different dimensions of experience. Bipolar scales with contradicting poles should thus be viewed critically.

The PIL is conceptualized as such a continuum between contradicting poles. While Crumbaugh and Maholick describe the PIL as a measure of 'purpose in life' (1964, p. 201), they also aim 'to measure the condition of existential frustration described by Frankl' (1964, p. 201). The total score's interpretation is thus fuzzy, indicating a certain degree of existential frustration or purpose in life. The SOC comprises a mixture of bipolar items making use of contradiction (e.g. interesting versus routine) and negation (e.g. no goals versus clear goals), but no distinction is made between the two when calculating the total score which usually is interpreted as indication of the degree of absence or presence of meaningfulness, thus drawing on the principle of negation.

In the LRI, negative items are phrased as negations as well as contradictions to positive items. None of the three questionnaires thus differentiates between negation and contradiction. Though prone to misinterpretation, continua between contradicting constructs are employed. Therefore, none of the instruments allows for a clear distinction of the six states of meaning in life displayed above.

### The Sources of Meaning and Meaning in Life Questionnaire (SoMe)

#### *Theoretical background: A hierarchic model of meaning*

The theoretical conceptualization of the SoMe draws on a hierarchic model of meaning (Schnell, 2004, 2009; Schnell & Becker, 2007; see Figure 2) based on action theory. It comprises five levels of increasing complexity and abstractness, from perception to the experience of meaning in life. As demonstrated by different research programs, the five levels are interconnected. On each of the levels, meaning-making processes occur. They entail the integration of objects, actions, or events into a larger context, thus creating coherence (cf. Reker & Wong, 1988). Higher levels provide the integrative framework for lower levels.

Perception is based on complex neuronal interpretation of sensory stimuli. Only by integration into

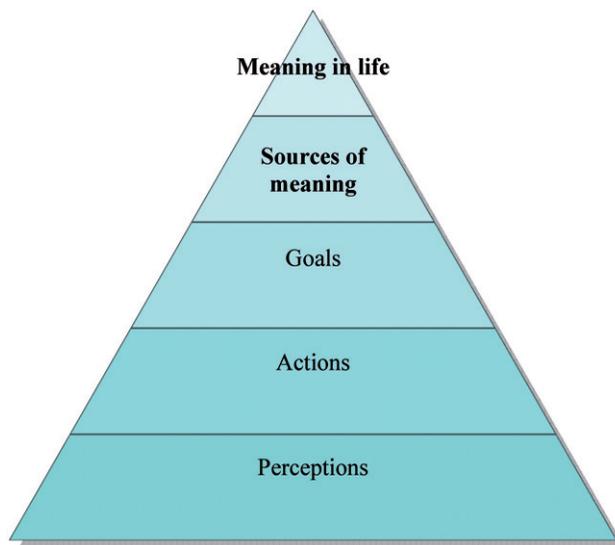


Figure 2. The hierarchic model of meaning.

existing schemes they gain significance: ‘Meaning is constituted by the receiver’ (Roth, 1998, p. 107; transl. by TS). According to Prinz (2000), perception, action and goal attainment are inherently connected through the *principle of common coding*. The presence of a stimulus activates the generation of a *perceptual code*. This, in turn, activates an *action code* that combines a *goal code* with a *motoric code*. The interpretation of a stimulus is thus commensurable with the instigation of an action and the pursuit of a certain goal. The inherent purpose of an action is the pursuit of the simultaneously activated goal.

A goal is commonly understood as a ‘desirable future state of affairs one intends to attain through action’ (Kruglanski, 1996, p. 613). Goals are consciously accessible (Emmons, 2005), though goal setting can also be unconsciously generated (Bargh & Barndollar, 1996). The pursuit of goals implies an orientation toward the future in the sense of a ‘behavioral movement toward identifiable endpoints’ (Emmons, 2005, p. 732). Goals have been termed ‘middle-level’ units of personality analysis (Buss & Cantor, 1989) because ‘they are typically at a middle-level of abstraction in a structural hierarchy, can be concretized with reference to specific activities and situations, and can be generalized with reference to higher-order themes and meanings in life’ (Emmons, 1996, p. 314).

Goals are often seen at the core of meaning in life. As Emmons notes, ‘some have argued that the construct of “meaning” has no meaning outside of a person’s goals and purposes, that is, what a person is trying to do’ (2005, p. 734). He claims that ‘goals are the concretized expression of future orientation and life purpose’ (Emmons, 2005, p. 733). While Emmons equates goals and life purpose, Ryan and Deci (2004)

argue that only intrinsic goals relate to a sense of meaning and a greater sense of purpose in life. Ebersole and Quiring (1991) even object to the association of goals and meaning. They agree with Yalom (1980) who deemed the belief that life is incomplete without goal fulfillment a ‘Western myth, a cultural artifact’ (p. 470).

Instead of focusing on goal pursuit and attainment alone, integration between goals and other aspects of personality is a more adequate predictor of overall life purpose, as stressed by Emmons (1996):

Meaning comes from involvement in personally fulfilling goals, the integration of these goals into a coherent self-system, and the integration of these goals into a broader social system... Goal attainment per se will not lead to subjectively satisfying long-term states unless these goals are intrinsically meaningful and integrated within an overall structure of the individual in his or her social context (p. 333).

Sheldon and Kasser (1994) emphasize the importance of integrating goals into personality. They consider two components of integration, coherence and congruence. Congruence is achieved when goals are chosen by the individual and concur with the basic needs of autonomy and relatedness (cf. Deci & Ryan, 1991). Vertical coherence ties in with the assumption of the hierarchic model of meaning: it refers to goals that contribute to more distal or higher level goals; analogously, they should also concur with the even more general sources of meaning.

Sources of meaning, as measured by the SoMe, were empirically identified as *ultimate meanings* (cf. Leontiev, 2007), underlying human cognition, behavior and emotion (Schnell, 2004, 2009). They are basic orientations; they motivate commitment to and direction of action in different areas of life

(Leontiev, 1982). Due to their generalized and relatively stable character (see *Development*), sources of meaning may be considered a component of personality. As individual configurations, they are comparable to Leontiev's concept of worldview, defined as 'a more or less coherent system of general understandings about how human beings, society, and the world at large exist and function' (2007, p. 245), including ideals of the desirable human being, society, and world that are worthy of personal commitment. Like worldview, sources of meaning are accessible to consciousness and can be reflected upon. For most of the time though, they are pre-conscious. By providing a direction for 'invested, committed living' (Ryff & Singer, 1998, p. 8), they enable a meaningful structuring of life without explicitly striving for meaningfulness.

Meaning in life represents the most abstract and complex level of the model. It emerges from a global evaluation of life. Two dimensions of meaning in life can be distinguished: the (positive) experience of meaningfulness, and the (negative) experience of a crisis of meaning. Both are conceived as having an affective, cognitive, and motivational component (Reker & Wong, 1988; Wong, 1998). Nevertheless, findings from research on the independence of positive and negative affect (cf. Cacioppo & Berntson, 1994; Diener & Emmons, 1984; Schimmack, 2001) seem applicable to them. Accordingly, meaningfulness and crisis of meaning are viewed as (relatively) independent dimensions. Thus, variation in one can occur without reciprocal variation in the other. This type of independence is called 'discriminant validity' by Schimmack (2003), or 'uncoupled activation' by Cacioppo and Berntson (1994).

Meaningfulness is defined as a fundamental sense of meaning, based on an appraisal of one's life as coherent, significant, directed, and belonging. A judgment on one's life as frustratingly empty, pointless and lacking meaning amounts to a crisis of meaning. Meaningfulness is understood as a basic trust, unconsciously shaping perception, action, and goal striving. Crises of meaning, in contrast, are usually experienced consciously. They are triggered by a violation of a sense of coherence and continuity, caused by critical life-events, personally relevant failure, biological threats, ego threats, or disorganization of psychological operations (Janoff-Bulman, 1992; Schmitz, 2005). Because they are highly salient, crises of meaning are usually followed by a search for meaning (cf. Baumeister, 1991; Klinger, 1998; Skaggs & Barron, 2006). Crises of meaning should thus be less stable than meaningfulness, as they vanish after a successful search for meaning. While sources of meaning significantly predict both meaningfulness and crisis of meaning, they cannot fully account for them.

### The questionnaire

The SoMe (German edition: Lebe, Schnell, 2004, 2009; Schnell & Becker, 2006, 2007) is a 151 item inventory. It allows for a highly differentiated measurement of 26 sources of meaning, and it provides a clean assessment of both meaningfulness and crisis of meaning.

### Development

The sources of meaning assessed by the SoMe were identified in a large qualitative research program (see Schnell, 2004, 2009). In structured in-depth interviews, a laddering technique (cf. Leontiev, 2007; Neimeyer, 1993) was employed to identify ultimate meanings underlying the contents of existentially relevant *cognition* ('personal myth'), *action* ('personal rituals'), and *emotion* ('experiences of transcending'). 'Laddering' was applied to all contents mentioned by the interviewees; they were repeatedly asked about the contents' meaning until an ultimate meaning was brought up that was not reducible to other meanings. After several cyclical processes of content analysis, carried out by a team of researchers, 26 ultimate meanings (*the sources of meaning*) remained (see Table 1). Regarding their basic character, sources of meaning can be compared to Deci and Ryan's *intrinsic values*. Intrinsic values are not reducible to other values, and they do not exist for the sake of other values (Ryan, Huta, & Deci, 2008). While intrinsic values have a normative character, implying an 'ought,' an aspired state, sources of meaning actually are in use; they represent 'values put to action' (Schnell, 2009).

Items for the 26 sources of meaning, the meaningfulness and crisis of meaning scales were examined and improved in several versions of the SoMe, resulting in the present final version. Its statements are rated on a scale from 0 (strongly disagree) to 5 (strongly agree). Internal consistencies range from .83–.93 for the dimensions ( $M = .89$ ), and .65–.95 for the scales ( $M = .79$ , see Table 1; these and following values were derived by the German version of the SoMe: LeBe, representative sample,  $N = 603$ ). Sources of meaning, meaningfulness and crisis of meaning show a high short-term stability; 2-month test-retest stability coefficients average .81 for the scales, .90 for the dimensions. Stability of sources of meaning and meaningfulness is still high after an interval of 6 months (.72 for the scales, .78 for the dimensions); for crisis of meaning, it is .48.

The SoMe's construct, content, discriminant, factorial, and incremental validity have been demonstrated in numerous studies (Gapp & Schnell, 2008; Hoof & Schnell, 2009; Imruck, 2009; Schnell, 2004, 2008, 2009, in press; Schnell & Becker, 2006, 2007).

*Sources of meaning* scales quantify the degree of realization for each of the 26 orientations. Orthogonal as well as oblique factor analyses suggest a summary of

Table 1. SoMe scales and dimensions, with internal consistencies ( $N = 603$ ).

Scale/Dimension	Internal consistency ( $\alpha$ )
<i>Meaningfulness</i>	.74
<i>Crisis of meaning</i>	.92
<b>Selftranscendence</b>	.89
<i>Vertical selftranscendence</i>	.84
<i>Explicit religiosity</i>	.94
<i>Spirituality</i>	.68
<b>Horizontal selftranscendence</b>	.87
<i>Social commitment</i>	.65
<i>Unison with nature</i>	.88
<i>Self-knowledge</i>	.87
<i>Health</i>	.86
<i>Generativity</i>	.76
<b>Selfactualization</b>	.93
<i>Challenge</i>	.76
<i>Individualism</i>	.68
<i>Power</i>	.68
<i>Development</i>	.81
<i>Achievement</i>	.76
<i>Freedom</i>	.91
<i>Knowledge</i>	.69
<i>Creativity</i>	.85
<b>Order</b>	.89
<i>Tradition</i>	.79
<i>Practicality</i>	.76
<i>Morality</i>	.71
<i>Reason</i>	.68
<b>Well-being and relatedness</b>	.91
<i>Community</i>	.77
<i>Fun</i>	.71
<i>Love</i>	.75
<i>Comfort</i>	.75
<i>Care</i>	.70
<i>Attentiveness</i>	.69
<i>Harmony</i>	.85

these by four dimensions. Supported by factor-analyses of its items, the first dimension is divided into two sub-dimensions for further differentiation:

- (1) *Selftranscendence*: Commitment to objectives beyond one's immediate needs.
  - (1a) *Vertical selftranscendence*: Orientation towards an immaterial, cosmic power;
  - (1b) *Horizontal selftranscendence*: Taking responsibility for (worldly) affairs beyond one's immediate concerns;
- (2) *Selfactualization*: Employing, challenging, and fostering one's capacities;
- (3) *Order*: Holding on to values, practicality, decency, and the tried and tested;
- (4) *Well-being and relatedness*: Cultivating and enjoying life's pleasures in privacy and company. (As factor analyses repeatedly showed, these two aspects of caring for oneself and caring for others are closely linked to each other. This might suggest that relatedness serves hedonic needs. The dimension might also be seen as

representing a realization of 'loving one's neighbor as oneself.')

The SoMe dimensions cover the four categories of meaningful experience identified by Emmons (2003). Drawing on different research programs on personal meaning (Ebersole, 1998; Emmons, 1999; Wong, 1998), Emmons sees the following factors emerging: achievement/work, relationships/intimacy, religion/spirituality, and self-transcendence/generativity. Achievement is a subscale of *selfactualization*; relationships/intimacy are represented by *community* and *love*, two subscales of *well-being and relatedness*; religion/spirituality make up the SoMe dimension *vertical selftranscendence*, and generativity is a subscale of *horizontal selftranscendence*. It can thus be concluded that the SoMe dimensions not only capture these major categories of meaning, but represent them in a more comprehensive and differentiated way. This might be attributed to the method of identifying meaningful experiences used by Schnell (2004, 2009) in contrast to those used by the research programs Emmons refers to. While the latter relied on conscious notions of meaningful experiences (questions about meaningful life, ratings of sources of meaning, etc.), Schnell and colleagues used a laddering technique (see *Development*) to identify *implicit* sources of meaning. Therefore, the categories named by Emmons (2003) only cover the most obvious sources of meaning, highly valued by society and thus coming to mind easily: work, relationships, religion/spirituality, and contributing to society.

The meaningfulness scale measures the degree of subjectively experienced meaningfulness. Items paraphrase complementary facets of its definition; they read:

- I think that there is meaning in what I do.
- I have a task in life.
- I feel part of a bigger whole.
- I lead a fulfilled life.
- I think my life has a deeper meaning.

With crisis of meaning, the degree of emptiness and a frustrated will to meaning are assessed:

- When I think about the meaning of my life I find only emptiness.
- My life seems meaningless.
- I don't see any sense in life.
- I suffer from the fact that I don't see any point in life.
- My life seems empty.

By means of these two scales, all six conceivable states of meaning can be differentiated (see Figure 1) and *types of meaning* can be composed (Schnell, in press). Apart from the German and English versions, a Russian, Spanish, and Czech version exist.

The German version was standardized by a representative sample of  $N=603$ , which is used in the present study. Correlations with demographic variables thus have a strong external validity and will be reported below. They will especially add to the clarification of the relationships between meaning in life, gender and age, which have not been convincingly determined, so far (Scannell et al., 2002). The distinction of meaningfulness and crisis of meaning should also offer additional information regarding this question. In Study 2, relationships between SoMe variables and measures of well-being, based on a different sample, will be described. They present a qualification of previous findings regarding the role of the experience of meaning, its absence, or a suffering from a lack of meaning, for positive and negative well-being.

**Study 1: Correlations of meaningfulness, crisis of meaning, and sources of meaning, with demographic variables**

**Method**

*Subjects*

The SoMe was completed by a representative German sample ( $N=616$ ). Distribution of sex, age, and place of residence were analogous to that in the total population. The number of people to be contacted in different parts of the country was determined in accordance with official population statistics (Statistisches Bundesamt, 2005). Individual participants were randomly selected. They were informed of the study and asked to contribute by telephone. The questionnaire and a self-addressed envelope were then sent to those who agreed to cooperate. The return rate was 67%. After eliminating incomplete records and excluding multivariate outliers, 603 datasets remained. A total of 53% of the respondents were female. Age ranged from 16 to 85 years ( $M=45$ ,  $SD=17$ ); 15% were single, 18% lived with a partner, 55% were married. One fifth of the respondents only had general education; 25%

had obtained O-levels (about 18–19 years of age), 17% A-levels (about 16 years of age). Thirty-eight percent had graduated from technical college or university.

*Measures*

The German version of the SoMe was used to measure meaningfulness, crisis of meaning, and 26 sources of meaning.

**Results**

Table 2 displays intercorrelations of the SoMe variables and correlations with demographic variables. Due to positive skewness and high kurtosis (2.19/4.63), the crisis of meaning scale was transformed (inverted) for correlational analyses (Tabachnick & Fidell, 2007; skewness and kurtosis after transformation = 0.60/−1.25). Meaningfulness and crisis of meaning prove to be relatively independent of each other ( $r=-0.38$ ). A principal components analysis, performed on the 10 items constituting both scales, results in the extraction of two factors with eigenvalues greater than 1. After Varimax as well as oblique rotation, nine items show high loadings on their respective factor, and loadings <0.15 on the other factor. One item (‘I lead a fulfilled life’) loads on both factors.

The distinction of meaningfulness and crisis of meaning is also supported by confirmatory factor analysis comparing a one-dimension to the two-dimension model. As shown in Table 3,  $\chi^2$  is significant for both models, but the appropriateness of hypothesis testing in model fitting is routinely questioned (cf. Bollen & Long, 1993; Tabachnick & Fidell, 2007). Only the two-dimension model achieves acceptable to good fit, as indicated by the TLI and CFI. The RMSEA amounts to 0.08, thus signifying an adequate fit (Bollen & Long, 1993; Hu & Bentler, 1999). Comparison of the Akaike information criterion also suggests a better fit of the two-dimension model.

Table 2. Intercorrelation of SoMe scales, correlations and  $R^2$  with sex (1 = male, 2 = female), age (in years), and education (seven levels: 1 = less than 10 years of school to 7 = university degree);  $N=603$ .

Scale/dimension	(1)	(2)	(3)	(4)	(5)	(6)	Sex m/1,f/2 <i>r</i>	Age <i>r</i>	Education $\rho$	Sex, Age, Education $R^2$
<i>Meaningfulness (1)</i>							<b>.09</b>	<b>.20</b>	−.05	<b>.05</b>
<i>Crisis of meaning* (2)</i>	<b>−.38</b>						.02	−.08	−.06	.01
<i>Selftranscendence vertical (3)</i>	<b>.48</b>	−.03					<b>.16</b>	<b>.14</b>	<b>−.20</b>	<b>.08</b>
<i>Selftranscendence horizontal (4)</i>	<b>.62</b>	<b>−.11</b>	<b>.43</b>				.05	<b>.26</b>	.04	<b>.08</b>
<i>Selfactualization (5)</i>	<b>.39</b>	−.08	<b>.08</b>	<b>.51</b>			<b>−.17</b>	−.03	<b>.14</b>	<b>.04</b>
<i>Order (6)</i>	<b>.34</b>	<b>−.09</b>	<b>.27</b>	<b>.31</b>	<b>.14</b>		.04	<b>.36</b>	<b>−.32</b>	<b>.20</b>
<i>Well-being and relatedness</i>	<b>.49</b>	<b>−.17</b>	<b>.29</b>	<b>.50</b>	<b>.45</b>	<b>.40</b>	<b>.22</b>	−.02	<b>−.15</b>	<b>.08</b>

Note: \*scale transformed (inverse) due to non-normality;  $\rho$  = Spearman *rho*; bold: significant ( $p \leq .05$ , two-sided).

Table 3. Fit indices for a one-dimension and a two-dimension model of crisis of meaning and meaningfulness, tested via CFA.

	$\chi^2$	<i>df</i>	<i>p</i>	TLI	CFI	RMSEA	AIC
One-dimension model	475.20	35	.000	.80	.84	.15	535.20
Two-dimension model	158.57	34	.000	.94	.96	.08	220.57

Note: TLI = Tucker-Lewis index; CFI = comparative fit index; RMSEA = root mean square error of approximation; AIC = Akaike information criterion.

Meaningfulness is negligibly higher among women. It slightly increases with age (see Table 2). Curve estimation indicates that this function is best described as linear; non-linear patterns, as assumed by Frankl (1996), were not detected. Meaningfulness is lowest in adolescence, rising until the age of 35; it is quite stable from 35 to about 45 and then increases again until 60, where it reaches (and maintains) a high level. Education is not associated with the degree of experienced meaning. As regards crisis of meaning, no correlations with sex, age, or education were found. A Mancova (adjusted for sex and age) explored differences in meaningfulness and crisis of meaning between six marital statuses: single, living with a partner, married, married but living apart, divorced, widowed. It is significant with  $F(10,1166) = 3.06$ ,  $p = .001$ ,  $\eta^2 = .03$ . Both meaningfulness ( $\eta^2 = .03$ ) and crisis of meaning ( $\eta^2 = .04$ ) show significant between-subject effects.

Figure 3a presents estimated means of meaningfulness for each of the marital statuses. It is particularly high among married persons; according to post-hoc tests (Scheffé), they report significantly higher meaningfulness than singles and individuals living with a partner. Figure 3b presents the percentage of individuals of each marital status suffering from a crisis of meaning (i.e. above average agreement to the scale's items; scale value  $\geq 2.5$ , range 0–5). Most crises of meaning are reported by singles (11%), followed by divorced persons (9%) and unmarried individuals with a partner (9%). Among married couples, crises of meaning are very rare (3%).

The five dimensions of meaning show small to moderate covariation with demographic variables (see Table 2). More than men, women orient themselves by *vertical selftranscendence* (further analyses on scale level show both *explicit religiosity* and *spirituality* to differ), as well as by *well-being and relatedness* (all associated scales). *Selfactualization* is more realized by men than by women (all scales but *creativity* and *individualism*). *Order* as well as *horizontal* and *vertical selftranscendence* increase with age (all scales but *self-knowledge* and *spirituality*). Education shows small positive correlations with *horizontal selftranscendence* (*social commitment, self-knowledge*) and *selfactualization* (*knowledge, development, power*). It correlates negatively with *well-being and relatedness* (*harmony,*

*fun, care, love*), *vertical selftranscendence* and *order* (all scales of both). Using all three demographic variables as predictors, a substantial amount of variance (20%) can be explained in *order*; all other dimensions of meaning are more independent of demographic attributes, with 4–8% of variance explained.

After adjustment for sex and age, a Mancova shows the five dimensions of meaning to differ significantly between marital statuses, though the effect is small ( $F(25, 2156) = 2.17$ ,  $p = .001$ ,  $\eta^2 = .02$ ; see Figure 4). Effects concern *vertical selftranscendence* ( $\eta^2 = .02$ , significant only for *explicit religiosity*) and *order* ( $\eta^2 = .02$ ; all scales significant). Married individuals attribute more significance to *explicit religiosity* than individuals living with a partner. They also orient themselves more by *order* than singles and those living with a partner. Widowed persons give particular importance to *order* (more than singles, people living with a partner, and married persons living apart).

## Study 2: Correlations of meaningfulness, crisis of meaning, and sources of meaning with well-being

The aim of the second study is to qualify findings of studies that employed the above-mentioned criticized measures for investigations into the relation between meaning in life and well-being. Because most of these studies focused on aspects of subjective (hedonic) well-being as conceived by Diener (1984), hence satisfaction with life and positive and negative affect, these were also examined in the present study. In contrast to the PIL, LRI, or SOC, the SoMe allows for analyses of correlation between absence and presence of meaningfulness with well-being on one side, and absence and presence of a crisis of meaning with well-being on the other side. The increased differentiation of operationalization is supposed to provide additional insights into the relationship between meaning in life and well-being. The following hypotheses are tested:

### Hypotheses

- (1) Meaningfulness and crisis of meaning are not confounded with positive or negative aspects of well-being. Correlations should not exceed 0.70, indicating less than 50% of overlapping.

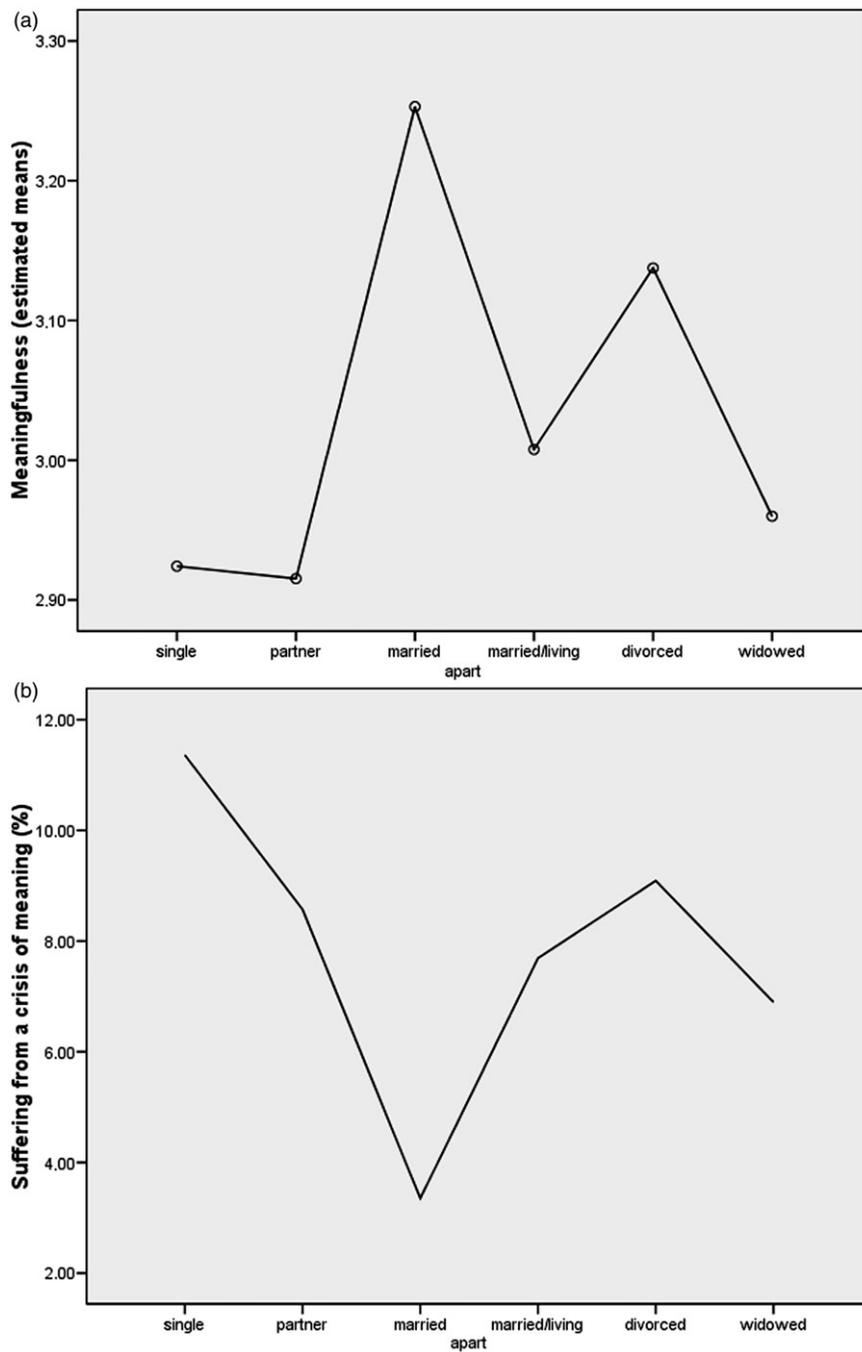


Figure 3. (a) Estimated means of meaningfulness adjusted for sex and age, and (b) percentage of individuals suffering from a crisis of meaning in different marital statuses.

- (2) Meaningfulness is a positive experience; its presence should be associated with positive well-being (Zika & Chamberlain, 1992).
- (3) Correlations between meaningfulness and negative well-being should be low. It cannot be assumed that low levels of meaningfulness imply high levels of negative well-being, because a mere absence of meaningfulness is not a state of suffering (as is crisis of meaning). Vice versa, a high degree of meaningfulness does not imply the absence of negative affect. Experiences of

meaning should also be possible for people with a depressive or anxious outlook on life.

- (4) In contrast, correlations of crisis of meaning and negative well-being should be strong: the negative experience of a crisis of meaning is expected to make the occurrence of other negative affects more likely, and vice versa.
- (5) Because it is experienced consciously (see hierarchic model of meaning), a crisis of meaning is expected to influence well-being more than meaningfulness does. Its presence should thus

make the experience of positive affect less probable.

By means of explorative analysis, relationships between the five dimensions of meaning and positive and negative measures of well-being are investigated.

**Method**

*Measures*

Meaningfulness, crisis of meaning, and dimensions of meaning were assessed by the German version of the SoMe. Cronbach alphas were .78 for meaningfulness, .92 for crisis of meaning, .84-.93 for the dimensions of meaning.

*Negative affect: Neuroticism, depression, anxiety.* The revised NEO-Personality Inventory (Costa & McCrae, 1992; German version: Ostendorf & Angleitner, 2003)

was used to measure negative aspects of well-being: neuroticism and its facets depression and anxiety. Internal consistencies were .92 for neuroticism, .82 for depression and .84 for anxiety.

*Positive affect and satisfaction with life.* The Trait Well-Being Inventory (HSWBS; Dalbert, 1992) assesses two aspects of subjective well-being: level of positive mood, and general satisfaction with life. It uses 13 items rated on a six-point scale of agreement. The mood scale had an internal consistency of .89, the satisfaction with life scale an alpha of .87.

*Procedures*

Correlation analyses were employed to examine the amount of shared variance between meaningfulness, crisis of meaning, and positive and negative aspects of well-being. Via structural equation modeling

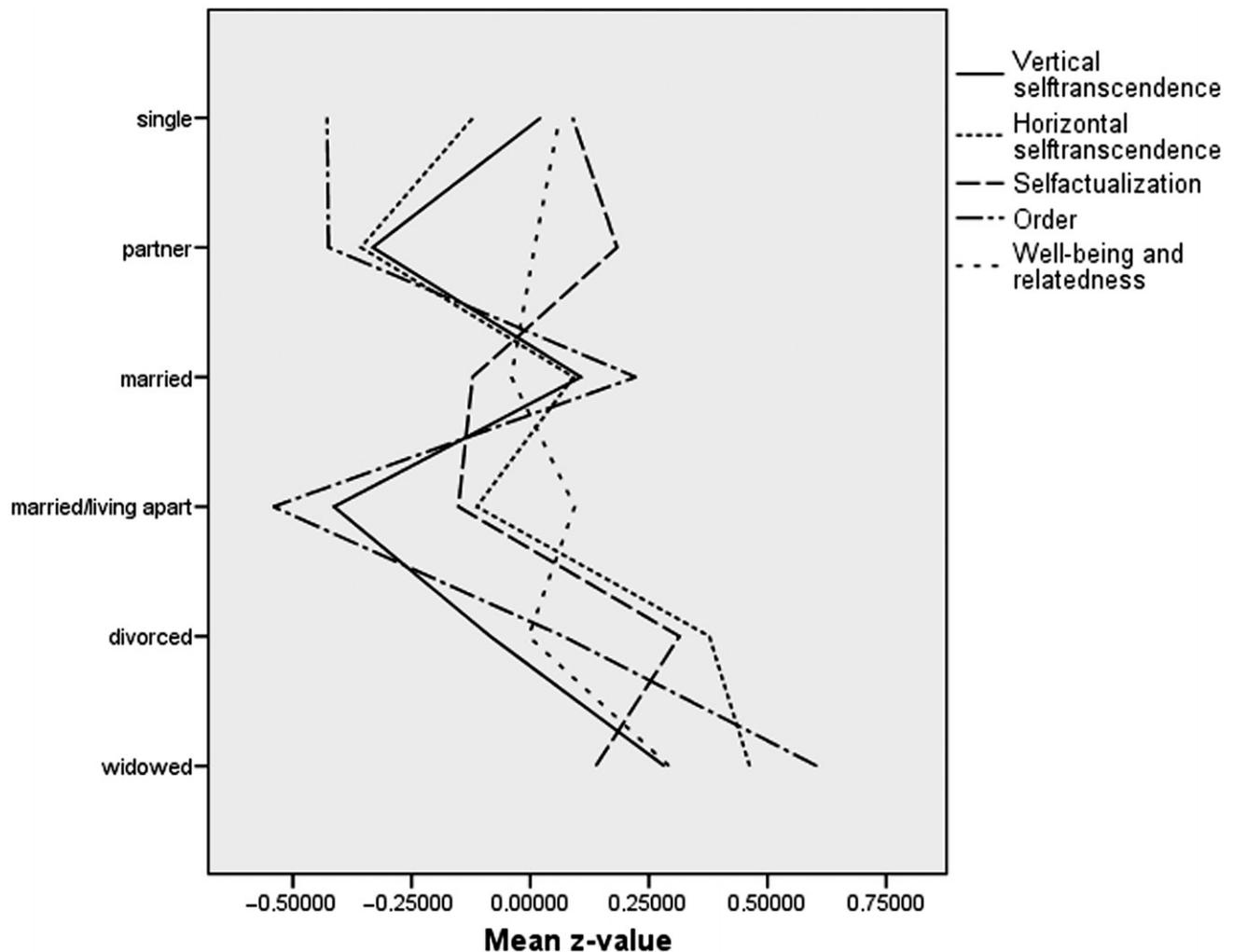


Figure 4. Estimated means of the five dimensions of meaning for marital statuses, adjusted for sex and age.

(with SPSS/AMOS), hypothesized relationships between meaningfulness, crisis of meaning, and positive and negative measures of well-being were analyzed. Further correlation analyses explored relationships between the five dimensions of meaning and well-being.

*Subjects*

Respondents were 135 psychology students, 85% of them female. Age ranged from 18 to 45 years ( $M = 21$ ,  $SD = 4$ ). About one third (36%) lived with a partner or were married, 64% were single.

Table 4. Correlations of meaningfulness and crisis of meaning with positive and negative aspects of well-being.

	Meaningfulness	Crisis of meaning
<i>Crisis of meaning</i> (transf.*)	<b>-.35</b>	
<i>(Positive) Mood level</i>	<b>.36</b>	<b>-.59</b>
<i>Satisfaction with life</i>	<b>.44</b>	<b>-.55</b>
<i>Neuroticism</i>	<b>-.23</b>	<b>.53</b>
<i>Anxiety</i>	<b>-.12</b>	<b>.42</b>
<i>Depression</i>	<b>-.24</b>	<b>.64</b>

Note: bold: significant ( $p \leq .01$ ). \* = transformed (inverted) due to positive skewness.

**Results**

Correlations between meaningfulness, crisis of meaning, and indicators of positive and negative measures of well-being are displayed in Table 4. Intercorrelation of meaningfulness and crisis of meaning is comparable to that in the representative sample ( $r = -.35$ ). As expected in hypothesis 1, none of the correlations of meaningfulness and crisis of meaning with positive and negative aspects of well-being exceeds an  $r$  of .70. The correlations' average only amounts to a mean  $r$  of .43 (via Fisher- $z$ ).

Hypotheses two to five are supported by the structural equation model shown in Figure 5. The model examined meaningfulness and crisis of meaning as predictors of positive and negative well-being. Positive well-being was represented by a latent variable with the two indicators positive mood and satisfaction with life; negative well-being was represented by a latent variable with the two indicators depression and anxiety. The model fits the data well ( $\chi^2_5 = 5.22$ ;  $p = .39$ ; CFI = .999, TLI = .998, RMSEA = .018). Meaningfulness significantly predicts positive well-being (HS2), and it does not contribute to the prediction of negative well-being (HS3). Crisis of meaning is a significant predictor of negative well-being (HS4) as well as positive well-being (HS5).

Almost half (48%) of the variance in positive well-being, and 42% of the variance in negative well-being were accounted for by the two meaning in life scales.

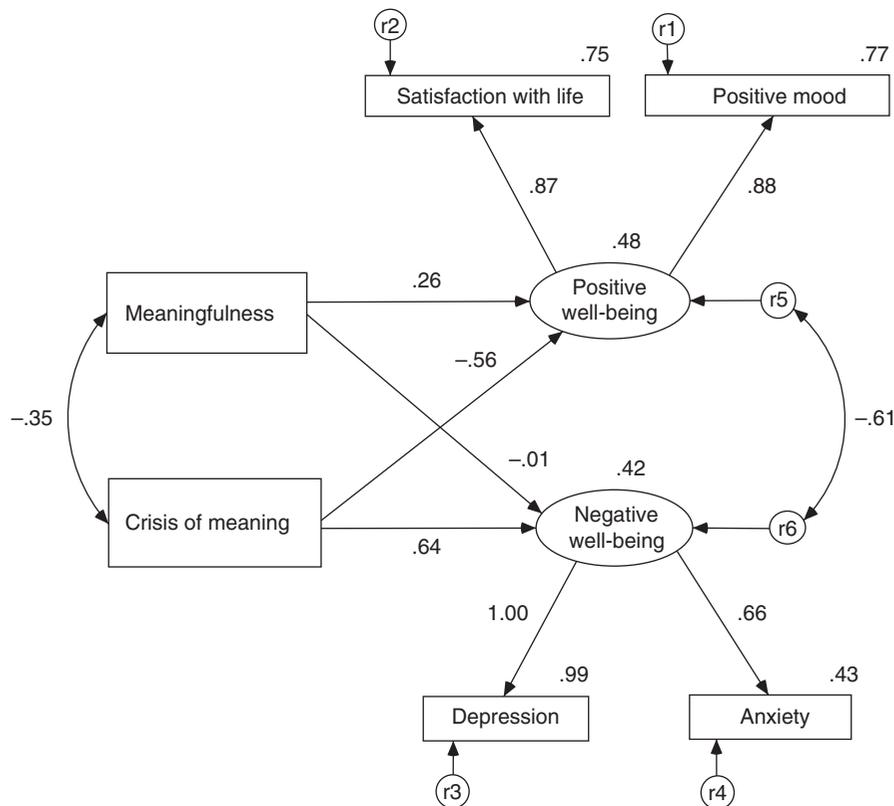


Figure 5. Prediction of positive and negative well-being by meaningfulness and crisis of meaning: Final model.

An exploration of relationships between the five dimensions of meaning and well-being shows positive correlations between dimensions of meaning and positive aspects of well-being, but no correlations with neuroticism or its facets anxiety or depression (see Table 5). *Well-being and relatedness*, *order*, and *vertical selftranscendence* relate to satisfaction with life; additionally, *well-being and relatedness* and *vertical selftranscendence* covary with a positive mood level. When all five dimensions of meaning are entered into a simultaneous regression analysis to predict satisfaction with life, 12% of variance are explained ( $p = .004$ ). This is predominantly attributable to the influence of *well-being and relatedness* ( $\beta = .25, p = .01$ ). As much as 22% of variance in positive mood are explained by the five dimensions. *Well-being and relatedness* ( $\beta = .41, p < .001$ ) and *vertical selftranscendence* ( $\beta = .23, p = .01$ ) positively predict positive mood, while *horizontal selftranscendence* is a negative predictor ( $\beta = -.27, p = .009$ ).

## Discussion

### Measurement problems

As was described and exemplified, research on meaning suffers from measurement problems of three kinds. First is the use of overly broad measures, containing items that tap other psychological variables, such as positive and negative mood and satisfaction with life. As a consequence, correlations with these measures are artificially increased. Furthermore, meaning scales are either conceptualized as bi-polar, or they contain reverse-coded items. This results in artificially increased relationships of positive aspects of meaning in life and negative measures of well-being. Moreover, the one-dimensional assessment of meaning was criticized, because meaningfulness and crisis of meaning are better conceived as two distinct dimensions with uncoupled activation (Cacioppo & Berntson, 1994). One-dimensional measurement ignores this complexity and makes a separate evaluation of different qualities of meaning impossible.

The Sources of Meaning and Meaning in Life Questionnaire (SoMe; Schnell & Becker, 2007) was introduced as an instrument not suffering

from these limitations. It contains two separate, uni-polar, and unconfounded measures of meaningfulness and crisis of meaning. The necessity of the distinction between meaningfulness and crisis of meaning as two dimensions is evident from their relatively low empirical correlation (here:  $r = -.38$  and  $r = -.35$ ), as well as from results of explorative and confirmatory factor analyses. Variation in one is not associated with reciprocal variation in the other. Empirical data thus support the claim that meaningfulness and crisis of meaning should not be conceptualized as two poles of a continuum. Referring to two different dimensions of experience, they represent contradiction, not contrariety.

### Relationships of meaning in life with demographic variables

The SoMe was used to analyze correlations of meaningfulness, crisis of meaning, and sources of meaning with several demographic variables. With a representative sample at hand, the results can be ascribed high external validity. Relationships between meaning in life and gender have yielded contradictory results in previous research. Some reported higher meaning scores for men (e.g. Crumbaugh, 1968; Orbach et al., 1987); others did not find any differences (e.g. Debats, 1999; Harlow et al., 1986; Scannell et al., 2002; Steger et al., 2006). In the present sample, no gender differences were found for crisis of meaning. For meaningfulness, a significant, but negligible correlation showed slightly higher scores in women.

The results were clearer for age effects. Also here, contradicting findings are reported in the literature. Some studies found no age differences in meaning scores (e.g. Debats, 1998; Reker, Peacock, & Wong, 1987), others came across increasing scores with age (e.g. Meier & Edwards, 1974; Reker & Fry, 2003; Steger et al., 2006; Van Ranst & Marcoen, 1997). In the present study, no age effect was detected for crisis of meaning. However, there is a small increase of meaningfulness with age. As determined by curve estimation, it is best described by a linear function. Meaningfulness is lowest for individuals under 35 ( $M = 2.92, SD = 0.87$ ) and highest for those over

Table 5. Correlations of the five dimensions of meaning with positive and negative aspects of well-being.

	Selftranscendence vertical	Selftranscendence horizontal	Selfactualization	Order	Well-being and relatedness
<i>(Positive) Mood level</i>	<b>.23</b>	-.04	.02	.14	<b>.38</b>
<i>Satisfaction with life</i>	<b>.18</b>	.07	.10	<b>.22</b>	<b>.31</b>
<i>Neuroticism</i>	-.14	-.05	-.13	-.14	-.10
<i>Anxiety</i>	-.09	.01	-.13	-.06	-.09
<i>Depression</i>	-.11	.09	-.01	-.08	-.11

Note: bold: significant ( $p \leq .05$ ).

60 ( $M=3.36$ ,  $SD=0.98$ ). For the middle-aged, the mean score is 3.13 ( $SD=0.89$ ). The results tie in well with theoretical assumptions. A crisis of meaning is supposed to occur after a violation of one's sense of coherence and continuity. This can be caused at any time of life, triggered by psychological, social, or environmental processes. The trust that one's life is meaningful is derived from an appraisal of life as coherent, significant, directed, and belonging. The recognition of such characteristics, though possible at any time of life, is likely to benefit from a broader knowledge of self and world, as it develops with age. The same interpretation might be applied to findings yielded by Steger et al. (2006). Though their data comes from a student sample with reduced variation in age, they also found no age effect for 'search for meaning,' but comparable positive correlations between age and 'presence of meaning.'

The degree of experienced meaningfulness also differs significantly with marital status. It is highest for married people; individuals living with a partner without being married report significantly lower meaningfulness. This might be based on the confirmation of *belonging* through official marriage, the availability of *direction* through the aim of building a home and raising children, and the experience of *significance* through responsibility for children.

Also crisis of meaning scores differ significantly between marital statuses. As a comparison of percentage of individuals in each marital status suffering from a crisis of meaning indicates, it is most common in singles. Again, married people stand out: they report significantly lower values than singles. The results thus point out the importance of family *and* partnership as buffers against crises of meaning, while being married is related more strongly to meaningfulness than living in an intimate relationship.

#### *Sources of meaning*

Sex, age, and education explain from 4% to 20% of the dimensions' variance. Women attribute slightly more importance to *vertical selftranscendence*, as is also reported by many studies in the psychology of religion (cf. Hood, Spilka, Hunsberger, & Gorsuch, 2003). More than men, women value *well-being and relatedness*. For men, *selfactualization* has a slightly stronger relevance than for women. Thus, the long-standing distinction of female communion and male agency (Bakan, 1966) can still be glimpsed in (post-)modern times.

*Horizontal selftranscendence* scores correlate positively with age. In accordance with that, life-span theories claim that selftranscendence is a developmental stage often entered in mid-life or later, after more egocentric needs have been fulfilled (Erikson, 1982; Maslow, 1970). *Vertical selftranscendence* shows a very small correlation with age. Analyses on scale level

detect a correlation of  $r = .23$  for *explicit religiosity*, but no significant coefficient for *spirituality*. Institutional religiosity is known to be more common among older than among younger people in Europe; it can be interpreted as a cohort effect (Hoellinger, 2005). This effect does not apply to spirituality.

The importance of *order* increasing with age can also be explained as a cohort effect: present-day elderly were socialized in an environment that highly valued tradition, reason, practicality and morality (sources of meaning belonging to the dimension of *order*). Alternatively, higher scores of these sources of meaning among older individuals could be seen as a compensation of a decrease in spontaneity and flexibility occurring with age.

Sources of meaning also differ with duration of schooling. The higher the school-leaving exams, the less significance is given to *order*. Tradition, morality, practicality, and reason thus become less relevant, the more educated someone is. Given norms and values are likely to be doubted by those who are taught to analyze and question. Practicality is of less relevance to those who confront life mainly intellectually. The devaluation of reason among the more educated is rather less obvious. *Less* schooled people claim that decisions should only be made rationally, not intuitively; they trust that 'reason is the measure of all things' (items from *reason* scale). Their confidence in the validity of reason is thus stronger than among those individuals who are more trained in using and applying it. Education also correlates negatively with *vertical selftranscendence* (*explicit religiosity* and *spirituality*). The effect is small but in line with the (generally dismissed; cf. Hood et al., 2003) thesis of secularization, positing that the more we know about the world, the less credible is the idea of a super-natural power.

Dimensions of meaning differed also with regard to marital status. Unmarried partners could be distinguished from married partners and singles regarding *vertical selftranscendence*. Average ratings of *explicit religiosity* among unmarried partners significantly fell below that of married partners ( $M=1.10$ ,  $SD=1.23$  vs.  $M=2.22$ ,  $SD=1.66$ ), and also below that of singles ( $M=1.95$ ,  $SD=1.71$ ). A decision for cohabitation and against marriage thus seems to be rooted in an a-religious worldview. Just like widowed individuals, married persons are also more traditional, practical, rational, and principled (*order*) than singles and unmarried partners, which might be the result of an interaction of personality as well as environmental factors. The link between marital status and existential orientation is hence underlined, again.

#### *Meaning in life and well-being*

In order to qualify previous findings regarding relationships between meaning in life and well-being,

Study 2 was undertaken. The SoMe was correlated with negative and positive indicators of well-being. As expected, correlations are lower than those generally reported in the literature. None of them exceeds an  $r$  of .70, thus supporting the claim of 'pure' measurement of meaningfulness and crisis of meaning.

Meaningfulness is moderately related to positive measures of well-being. The experience of one's life as meaningful can contribute to a positive state of mind, or vice versa (cf. King, Hicks, Krull, & Del Gaiso, 2006). But, as is evident from the moderate effect sizes, meaningfulness cannot be equated with hedonic well-being. A meaningful life is not necessarily cheerful and free of negative affect; it is better conceived as 'a life lived well' in a *eudaimonic* sense, as described by Ryan, Huta, and Deci (2008).

Correlations of meaningfulness with neuroticism, anxiety, and depression are even much lower. As revealed by a structural equation model, meaningfulness is *no* significant (negative) predictor of negative well-being. This contradicts many published findings. The result is attributed to the separate and clean measurement of a positive and a negative dimension of meaning in life. Furthermore, the meaningfulness scale contains neither reverse-coded nor bi-polar items. It hence does not tap negative affect which would *per se* ensure an association with negative well-being.

The established assumption that meaningfulness has a protective or healing effect is thus being challenged by the data, at least as the two indicators of negative well-being used in the present study are concerned. The experience of meaningfulness does not exclude simultaneous (trait) depressiveness and (trait) anxiety. On the other hand, depressiveness and anxiety do not imply an absence of meaningfulness; meaning can also be experienced under conditions of emotional instability. In addition, the *absence* of meaningfulness does not necessarily provoke emotional instability such as depressiveness or anxiety (Schnell, in press).

A crisis of meaning, though, is strongly related to negative well-being. Individuals who report a crisis of meaning feel an explicit lack and a yearning for meaning. Psychologically, this is an experience of instability, hence likely to provoke anxiety and depressiveness. But a crisis of meaning can also be the *consequence* of a psychological disorder, 'created by extended feelings of depression' (Harlow et al., 1986, p. 6; see also Schmitz, 2005) or by the disintegration of one's existence due to alcohol or other drug abuse (e.g. Becker & Quinten, 2003).

Apart from its association with negative indicators of well-being, crisis of meaning also serves as a negative predictor of positive well-being. An evaluation of one's life as frustratingly empty and lacking meaning contradicts an appraisal of one's life as satisfying. Similarly, positive feelings seem to be impaired by the negative appraisal, and 'it is highly

unlikely that one can feel both positive and negative affect at the same time, especially at strong levels' (Diener & Emmons, 1984, p. 1112).

None of the *dimensions of meaning* is related to negative indicators of well-being. Some are significantly associated with positive mood and/or satisfaction with life. Effects are strongest, though still moderate, for *well-being and relatedness*, hence the dimension of meaning explicitly concerned with the furthering of personal well-being. Especially for this relationship, the direction might also be reverse: individuals who experience a high degree of positive mood and satisfaction with life are more likely to commit themselves to sources of meaning such as *fun*, *harmony*, or *community*. *Vertical selftranscendence* is also moderately positively related to mood and satisfaction with life, while *order* only correlates positively with satisfaction with life, the cognitive component of well-being.

Multiple regression analysis confirms the specific predictive power of *well-being and relatedness* for satisfaction with life. The pursuit of enjoyment and affiliation represented by this dimension's sources of meaning thus contributes more to contentment with life than selfactualizing or selftranscending sources of meaning do. Regarding positive mood, as much as 22% of its variance are predicted by the dimensions of meaning. Here again, *well-being and relatedness* particularly adds to the prediction. This supports Ryff and Singer's (1998) assumption that 'loving and being loved are fundamental ingredients of being well' (p. 9), Csikszentmihalyi and Hunter's (2003) finding that time spent in company is positively related to happiness, and Deci and Ryan's (cf. 2008) claim that relatedness is a vital component of hedonic (as well as eudaimonic) well-being.

Positive mood is additionally positively predicted by *vertical selftranscendence*. A commitment to religiosity and spirituality has already been shown to relate to higher levels of positive affect, as in goal analyses by Emmons (cf. 2005) or experience sampling of daily religious behaviors and daily well-being (Steger & Frazier, 2005). Interestingly, *horizontal selftranscendence* emerges as a negative predictor of positive mood. As scale level analyses reveal, this is only attributable to *self-knowledge*. This source of meaning refers to a search for and reflection upon the 'true self.' Schlegel et al. (2009) report that accessibility of the true self is an important contributor to well-being; they showed it to be a potent source of meaning, too. Also the commitment to a search for the true self, as measured by the SoMe, imbues life with a sense of meaning. However, positive mood is lowered during this process of searching, in contrast to the state of true-self accessibility. Altogether, the five dimensions of meaning explain a rather low percentage of variance in satisfaction with life and positive mood. Their predictive

power will be increased or lowered in accordance with the coherence of personal goals and sources of meaning, on the one hand, and congruence of sources of meaning with personality traits (Schnell & Becker, 2006), external circumstances, etc., on the other hand (cf. the hierarchic model of meaning as described above).

### Limitations and outlook

The present study challenges several long-held concepts about the measurement of meaning in life and its relation to well-being. While the validity of the SoMe has been demonstrated in numerous studies and is also supported by relations to demographic variables reported in Study 1, further studies relating it to other psychological constructs are needed to clarify its strengths and limitations. Because the SoMe is a broad measure of sources of meaning, additional instruments should be employed when more differentiated information on specific sources of meaning is needed.

Further research is certainly required for replication of the low to absent association between meaningfulness and negative well-being. Future studies, using the SoMe's meaningfulness and crisis of meaning scales, should explore the relationship in more heterogeneous samples. Also an exploration of links between meaningfulness and other indicators of negative well-being is necessary.

In general, qualification of previous findings gained by use of confounded measures should continue. A separate assessment of positive and negative aspects of meaning in life, as realized by the SoMe, is very advantageous for this endeavor. It contributes to an (approximate) acknowledgment of the complexity of meaning in life.

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