

Article

Spirituality as a Predictor of Well-Being, Mental Distress or Both: A Four-Week Follow-Up Study in a Sample of Dutch and Belgian Adults

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Abstract: In general, studies of spirituality show positive associations with measures of well-being, but less is known about the possible role of mental distress in this association. Following the two-continua model of mental health, the current quantitative four-week follow-up study examines how spirituality is associated with well-being and mental distress. Spirituality is measured using the Spirituality Attitude and Interest List questionnaire (SAIL), well-being by the Dutch Mental Health Continuum-Short Form (MHCSF-SF), and mental distress by the Symptom Questionnaire (SQ-48). At baseline, 874 adults from the Netherlands and Belgium completed the online questionnaire; four weeks later, 560 participants completed the follow-up questionnaire. Multiple regression analyses showed that spirituality at baseline, and in particular the subscale on ‘meaning in life,’ predicted higher well-being scores at follow-up after adjustment for baseline well-being scores. Spirituality also predicted changes in mental distress scores, in particular on the subscales of trust and transcendent experience. However, these associations were in opposite directions. Trust was associated with a small decrease in mental distress over time and transcendent experience was associated with a small increase in mental distress over time. The results confirm the importance of meaning in life, trust, and transcendent experience as elements of mental health.

Keywords: spirituality; well-being; psychopathology; meaning; prospective research



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1. Introduction

Spirituality is usually linked with religion and receives considerable research interest (Paloutzian and Park 2014). Several studies have shown a positive association between spirituality and well-being (Bartlett et al. 2003; Michaelson et al. 2016; Thauvoye et al. 2018; Visser et al. 2010). Less attention has been paid to how this association is affected by mental distress (Koenig 2010; Lucchetti et al. 2021). In the present prospective study, spirituality and mental distress were studied within the framework of the two-continua model. This two-continua model perceives mental health as both consisting of well-being and mental distress (Westerhof and Keyes 2010). According to this model, well-being and mental distress are two related yet different dimensions of well-being: one continuum indicates the presence or absence of well-being, and the other refers to the presence or absence of mental distress. People with mental health problems can still experience a certain level of well-being, whereas people with high levels of well-being can simultaneously experience mental health problems. Individual well-being can therefore be based on two criteria,

namely, the degree to which someone is free of mental distress as well as the degree to which someone experiences well-being (Westerhof and Keyes 2010).

Yearly, the United Nations asks a group of international scientists to rank happiness in the world, which is published in the “happiness report” (Helliwell et al. 2019). This international group of scientists practicing in the fields of psychology, economics, education, health, urban and civil planning, business, and government have concluded that, despite increased prosperity, overall well-being has declined. They therefore strongly advocate putting well-being firmly on the agenda of governments and industries and advise doing more research in this area because well-being leads, after all, to better physical and mental health as well as to longer lives. Well-being is also included in the World Health Organization’s definition of mental health by the following definition: “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (WHO 2014). The WHO definition of mental health characterizes well-being positively as paying attention to realizing one’s own possibilities, being able to handle daily stress, and providing a contribution to society. These three characteristics are described as psychological, emotional, and social well-being (Westerhof and Keyes 2010). Psychological well-being is characterized by developing one’s own potential. There are several theories linked to this concept, such as Maslow’s pyramid (Koltko-Rivera 2006), the concept of Roger’s self-actualization (Kim 2018), and the process of individuation as described by Jung (Kotzé 2014; Pennachio 1992). These theories have the common view that human beings pursue to realize their full development. This can be achieved by striving for personal growth. The concept of personal growth is derived from the concept of eudaimonia by Aristotle (Waterman 1993). Eudaimonia is, according to Aristotle, the realization of one’s own potential, and this is seen as the highest goal in life.

Emotional well-being is a health dimension that describes one’s perception of positive and negative feelings. It is a cluster of positive or negative feelings regarding life (Keyes 2002), especially the presence of positive feelings about overall satisfaction with life together with the absence of negative emotions. Finally, social well-being refers to the sense of social involvement: being a part of a community or society and as such being able to engage in societal functioning.

Spirituality is increasingly being explored in relation to the axes of well-being and, to a lesser extent, with the two axes of mental health. According to MacDonald (2000), spirituality is characterized by five dimensions: (1) a cognitive orientation to spirituality; (2) an experiential phenomenological dimension; (3) existential well-being; (4) paranormal belief; and (5) religiosity. Cognitive orientation towards spirituality refers to the belief, conviction, and attitude towards spirituality and the role of spirituality in everyday life. This does not need to be a religious belief or an expression of faith, although these dimensions are closely related. The experiential, phenomenological dimension concerns experiences described as spiritual, such as religious, mystical, peak, transcendental, or transpersonal experiences. This dimension relates to a broader state of consciousness and unusual experiences. The dimension of existential well-being can be viewed as seeing life as positively existential: seeing life as meaningful and purposeful, where the “self” can cope and address the difficulties and limitations of existence. Paranormal belief refers to the belief in the paranormal, such as what is described by terms like psychokinesis, foreknowledge, extrasensory perception, and the existence of witchcraft and spiritism. Religiosity refers more to the intrinsic attitude towards religion, although there is a link between the practical implementation and the cognitive orientation toward spirituality.

From these five dimensions, MacDonald and colleagues derive the following definition of spirituality: “Spirituality is a natural aspect of human functioning which relates to a special class of non-ordinary experiences and the beliefs, attitudes, and behaviours that cause, co-occur, and/or result from such experiences. The experiences themselves are characterized as involving states and modes of consciousness which alter the functions and expressions of self and personality and impact the way in which we perceive and

understand ourselves, others, and reality as a whole” (MacDonald et al. 2015). Thus, spirituality is seen as a universal human quality as a sense of belonging. Therefore, spirituality is also defined “as the pursuit of experiences of connection with oneself, connection with others and nature, and connection with the transcendent” (de Jager Meezenbroek et al. 2012). Connection is also an essential point in the definition of spirituality (Reed 1992). Spirituality in health is, for instance, described by Reed (1992) as “the tendency to obtain meaning from a relationship through a transcending dimension so that the other as an individual is not devalued.”

Connection relates to several aspects. The connection with oneself can indicate authenticity, inner peace, awareness, self-knowledge, and a search for meaning in life. In addition, there are also the connections with the other and with nature in which aspects of compassion, caring, gratitude, and wonder can play a role. Finally, a connection can also be directed to the transcendent, something higher than the human level, such as a universal transcendent reality, power, or God. This can be associated with hope, awe, holiness, worship, or transcendent experiences (de Jager Meezenbroek et al. 2012). However, there is still an ongoing debate over finding a good definition of spirituality. In North America, the definitions of Puchalski et al. (2014) are well known, while in Europe, the version proposed by Nolan et al. (2011) is more commonly used. We decided to use the definition by De Jager Meezenbroek and colleagues because we found this definition most suitable for the Netherlands as a pluriform and secular country.

As mentioned earlier, previous research has indicated a positive association between spirituality and well-being. Thauvoye et al. (2018) showed that spirituality is associated with higher levels of well-being among the elderly. These authors described these connections with others and the connection with the transcendent as acting as positive predictors of well-being, while the connection with nature does not seem to affect well-being. In another study (Bartlett et al. 2003), it was indicated that spirituality is positively associated with the perception of health and well-being in people with arthritis. A literature study on the association between spirituality and well-being in cancer patients showed a positive association in 31 of 36 studies (Visser et al. 2010). However, the researchers questioned whether the results led to a definitive conclusion because of the given methodological shortcomings of the included studies. The methodological shortcomings were caused by the fact that many of the studies used spirituality measures with items directly related to well-being.

An international study by Michaelson et al. (2016) showed that several aspects of spirituality, such as connection with oneself, others, nature, and the transcendent, are strongly associated with general health. The most prominent association was for connection with oneself. Research among healthcare clients in California showed that 80% of the patients rated spirituality as an important factor for their mental health (Yamada et al. 2020). The authors advise integrating spirituality into the psychological assistance provided to clients who have an affinity with it, because it seems to promote recovery. This also emerged from a literature study by Koenig (2010), in which clients with a spiritual attitude recovered from depression 50% faster, and their time in therapy was 50% shorter. The spiritual attitude is an important source of comfort, hope, and meaning. Spiritual beliefs and behaviours can possibly contribute to coping with mental illness. This is in line with the findings of a recent meta-analysis showing a small but significant positive effect of religion/spirituality on well-being (Garssen et al. 2021).

However, spirituality, in the case of religious struggle, can also contribute to mental distress in some cases. A systematic review of 152 prospective studies on the relationship between religion/spirituality and depression showed that in approximately 10% of the studies that included religious struggle, 59% reported a significant association, with more depressive feelings over time (Braam and Koenig 2019). Religious struggle has been shown to have negative characteristics, such as the fear of punishment from God or the feeling of being abandoned by God. Religious struggle can also be accompanied by an increase in mortality (Pargament et al. 2001). The expression of religion/spirituality by

religious struggle thus seems to be accompanied by an increase in depressive symptoms and increased mortality. In short, the role of spirituality in mental health is not yet fully understood. On the one hand, spirituality has been associated with greater well-being, and a spiritual attitude ensures a healthier attitude to life and faster recovery over a period of crisis as well as less mental distress. On the other hand, spirituality (and in particular religious struggle) is associated with more mental distress.

In this four-week follow-up period study, we examined the relationship between spirituality and the two dimensions of the two-continua model of mental health: well-being and mental distress. Based on previous research, we assumed that the role of spirituality differs for both dimensions, as expressed in two hypotheses. In the first hypothesis, we state that spirituality is a positive predictor of well-being, taking into account people's demographic variations, baseline well-being, and mental distress symptoms.

In the second hypothesis, we state that spirituality is connected with a decrease in mental distress, taking into account demographic variation, well-being, and mental distress symptoms at baseline.

2. Method

2.1. Sampling

After the Ethical Review Committee (cETO) approved this study, number U2018/03092/MQF, the data collection started. The participants were recruited among adults living in the Netherlands and Belgium using a convenience sample and the snowball method (Noy 2008). Potential participants from our network were asked to participate and to share questionnaires with other potential participants. Industrial organizations, educational organizations and healthcare institutions were also asked to participate in this research program and recruit participants in their organizations. Participants were also recruited via social media, including Facebook, and LinkedIn. For data collection, a link to the online questionnaires was distributed by e-mail during the periods of December 2019 and January 2021 and started with an informed consent in which the participants were informed about the study.

2.2. Participants

At the start, 874 participants completed the questionnaire. Four weeks later at follow-up, 560 participants (64%) completed the questionnaire. The questionnaire started with demographic characteristics including gender, age, civil status (having a partner, yes/no), paid job (yes/no), education (professional or scientific), at least one resident child younger than 18 years (yes/no), religious affiliation (Roman Catholic, Reformed denomination, Spiritual (i.e. spiritual but not religious), Protestant church in the Netherlands, other Christian religion, or no belief in God). These demographic data were used to analyse dropouts and to test for generalizability.

2.3. Instruments

Spirituality was assessed using the Spirituality Attitude and Interest List (SAIL) which contains 26 items (de Jager Meezenbroek et al. 2012). These items were linked with three experiences regarding connectedness: connection with oneself, connection with the environment, and connection with the transcendent. The SAIL consists of seven subscales: connection with oneself is assessed by the subscales on (1) meaningfulness, (2) trust, and (3) acceptance; connection with the environment by the subscales of (4) care for others and (5) connection with nature; and connection with the transcendent by the subscales of (6) transcendent feeling and (7) spiritual activities. On a six-point Likert scale, the participants reported how often a statement was applicable, ranging from "totally not" (1) up to "to a very high degree" (6). Two examples of questions are: "I approach the world with trust" and "In difficult times I maintain my inner peace." In the present study, the Cronbach's alpha for the 26 items was 0.89. The total scores of the 26 items, from 47 up to 154, and the total scores of the subscales were used. The questionnaire does not differen-

tiate between religious and secular spirituality and does not contain items expressed as well-being.

Well-being was measured by the Dutch Mental Health Continuum-Short Form (MHCSF), a self-report questionnaire containing 14 items, including three items on social well-being, five items on emotional well-being, and six on psychological well-being (Lamers et al. 2011). The participants reported how often they experienced a certain feeling during the last month, scoring on a six-point scale from “never” (0) to “each day” (5). Two examples of questions are: “In the past month, how often did you feel happy?” and “In the past month, how often were you interested in life?” The study by Lamers et al. (2011) showed good internal consistency and an acceptable test–retest reliability. In the present study, the Cronbach’s alpha for the 14 items was 0.90. The total MHCSF 14-item scores, from 0 up to 70, were used, with a higher score indicating high well-being.

Mental distress was measured by the 48 items contained in the Symptom Questionnaire (SQ-48) (Carlier et al. 2012). The questionnaire items pertain to common symptoms, such as fear, depression, somatic symptoms, social phobia, agoraphobia, aggression, and cognitive symptoms. On a five-point Likert scale, the participant can choose between “never” (0) up to “very often” (4) to indicate how often they experience a certain symptom. Two examples of questions are: “During the last week I felt anxious while I was in a crowd (of people)” and “During the last week I was short of breath with minimal excursion.” The Cronbach’s alpha for the 48 items was 0.94. The total of the 48 items of the SQ-48 was used, from 0 up to 111; however, the items concerning jobs or study and optimism and vitality were skipped according to the manual. Higher scores indicated a higher degree of psychological complaints.

2.4. Statistics

For the statistical analyses, SPSS version 29 was used. The descriptive statistics are given for the main variables of spirituality, well-being, and mental distress. For these variables, the Z-scores and correlations were computed. Listwise deletion was applied missing variables. The findings were illustrated by computing the mean T1 and T2 scores for well-being and mental distress (using analysis of variance) for four course patterns of spirituality scores: stable high (highest tertile) at both T1 and T2, stable low (lowest two tertiles), increase from lowest tertile at T1 to highest tertile at T2, and decrease (vice versa). Hierarchic multiple regressions were performed to verify the hypotheses. The hypotheses were examined with stepwise multiple regression analyses, including the relevant covariates and spirituality as the predictor variables and, respectively, well-being at T2 (Hypothesis 1) and mental distress at T2 (Hypothesis 2) as the dependent variables. The possible mutual overlap between the two dimensions of the two-continua model was also controlled for by including mental distress at T1 and well-being at T1 in both regression analyses. Standardized scores were used for all core variables.

To test hypothesis 1, a multiple regression analysis was performed in four steps, with well-being at T2 as the dependent variable.

- Step 1: taking demographic covariates into account, spirituality at T1 was used as independent variable;
- Step 2: taking demographic covariates as well as baseline mental distress into account, mental distress at T1 was added as an independent variable;
- Step 3: taking demographic covariates as well as baseline well-being into account, mental distress at T1 was exchanged for T1 well-being; and
- Step 4: take demographic covariates as well as baseline mental distress and baseline well-being into account.

In order to verify the possibility of effect modification by covariates of age and education as well within the dual model components (well-being and psychological distress), additional regression analyses were carried out. The analyses included product terms (Age \times Spirituality T1) and (Education \times Spirituality T1) as well as both components of the dual model (Mental Distress T1 \times Spirituality T1) as well as (Well-Being T1 \times Spirituality T1).

3. Results

3.1. Sample Characteristics

Comparison between the participants who completed both measurements and the dropouts for several key variables at T1 are shown in Table 1. The *t*-test shows that the age of the dropouts was significantly lower as compared to the completers. Non-completers did not differ from completers with respect to scores at the first assessment of spirituality, well-being, and mental distress.

Table 1. Descriptive statistics of the completers, the dropouts, and the difference between the groups at baseline.

	Completers (n = 560)	Dropouts (n = 314)	Completers vs. Dropouts
Age M (SD)	48.4 (13.9)	44.0 (14.7)	$t(872) = 4.38^*$
<i>Gender:</i>			
Female (%)	66.1	65.0	$\chi_2(1) = 0.11$
Male (%)	33.9	35.0	
<i>Relation:</i>			
No (%)	24.8	29.9	$\chi_2(1) = 2.7$
Yes (%)	75.2	70.1	
<i>Paid job:</i>			
No (%)	20.2	19.7	$\chi_2(1) = 0.02$
Yes (%)	79.8	80.3	
<i>Education:</i>			
Professional (%)	27.7	26.4	$\chi_2(1) = 0.16$
Scientific (%)	72.3	73.6	
<i>Kids:</i>			
No (%)	61.5	55.3	$\chi_2(1) = 3.2$
Yes (%)	38.4	44.7	
Spirituality T1 M (SD)	102.2 (16.7)	101.9 (15.5)	$t(863) = 0.29$
Well-being T1 M (SD)	44.1 (12)	43.8 (11.6)	$t(865) = 0.40$
Mental distress T1 M (SD)	24 (18)	24.1 (16.3)	$t(791) = -0.06$
Spirituality T2 M (SD) ^a	99.7 (16.9)		
Well-being T2 M (SD) ^a	44.8 (12.2)		
Mental distress T2 M (SD) ^a	23.1 (18.8)		

* $p < 0.05$. M = mean; SD = standard deviation; scientific = higher vocational education, bachelor's degree, master's degree, or postdoctoral degree; kids, yes = at least one minor living at home (i.e., child). ^a Data are only available for the completers.

Of the participants, 83% were from the Netherlands, 16% were from Belgium, and 1% were from other countries. The affiliations were: atheist, 34%; Roman Catholic, 24%; Reformed denomination, 12%; Protestant church in the Netherlands, 7%; Dutch Reformed, 3%; other Christians affiliations, 2%; other religions 8% and spiritual and non-religious, 11%.

Table 2 shows correlations between the three main variables of well-being, spirituality, and mental distress at T1 and T2; all correlations are prominent, indicating that the associations are relatively consistent over time.

Table 2. Correlation between well-being, spirituality, and mental distress at T1.

	Well-Being T1	Spirituality T1	Mental Distress T1	Well Being T2	Spirituality T2	Mental Distress T2
Well-being T1	1	0.50 **	-0.43 **	0.82 **	0.51 **	-0.44 **
Spirituality T1		1	-0.23 **	0.46 **	0.86 **	-0.23 **
Mental distress T1			1	-0.47 **	-0.23 **	0.83 **
Well-being T2				1	0.50 **	-0.54 **
Spirituality T2					1	-0.26 **
Mental distress T2						1

** Correlation significant at the 0.01 level.

3.2. Prospective Association between Spirituality and Well-Being

To get an impression of the development of well-being and mental distress during the four-week follow-up, four course patterns of spirituality were defined: low spirituality (n = 314), decrease in spirituality (n = 62), increase in spirituality (n = 22), and high spirituality (n = 155). As shown in Figure 1, a slight increase in well-being scores can be observed in the group with an increase in spirituality. Well-being scores showed a small decrease for those with a decrease in spirituality. The figure of mental distress shows a decrease in mental-distress scores in the group with an increase in spirituality. An increase in mental distress can be observed in the group with a decrease in spirituality. For both outcomes, it is clear that by and large those with high levels of spirituality at T1 and T2 maintain a high level of well-being and a low level of mental distress. Similarly, those with low levels of spirituality at both T1 and T2 persist in low levels of well-being and high levels of mental distress.

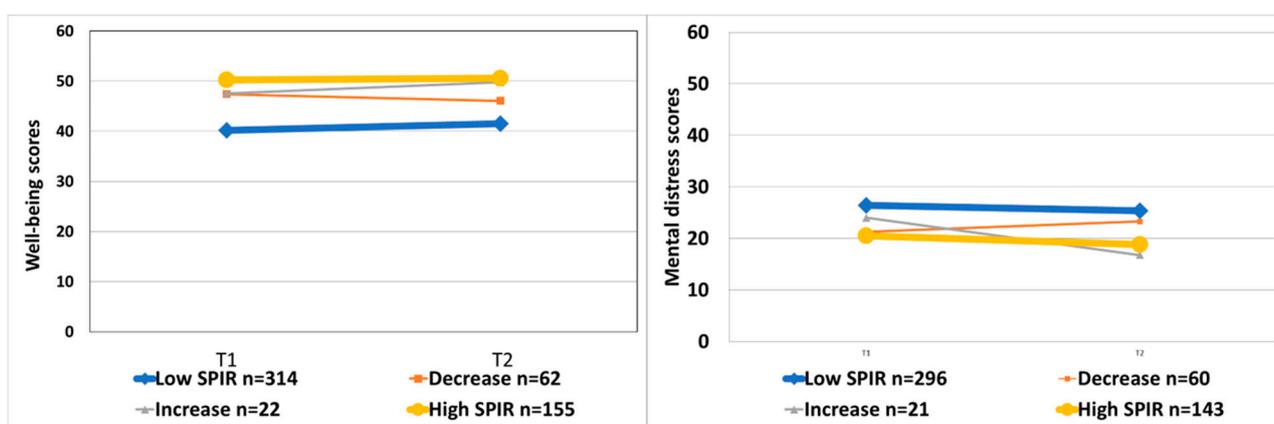


Figure 1. Course of the well-being scores for the four trajectories of “spirituality and mental distress” subscale scores: highest tertile (persistent), increase to highest tertile, decrease to middle or lowest tertile, and persistent lowest tertiles.

The results of the test of Hypotheses 1 are displayed in Table 3.

Table 3. The table shows the results of the stepwise hierarchical regression analysis for Hypothesis 1.

	Step 1	Step 2	Step 3	Step 4
	β	β	β	β
	$R^2 = 0.22^{**}$	$R^2 = 0.36^{**}$ $\Delta R^2 = 0.14$	$R^2 = 0.67^{**}$ $\Delta R^2 = 0.31$	$R^2 = 0.68^{**}$ $\Delta R^2 = 0.01$
Gender ¹	0.01	−0.01	0.02	0.02
Age	−0.05	−0.10 [*]	−0.03	−0.04
Relation ²	0.01	0.02	0.00	0.00
Paid job ³	0.10 [*]	0.07	0.03	0.03
Education ⁴	−0.04	0.00	0.01	0.02
Home living child ⁵	−0.03	−0.05	−0.01	−0.02
Spirituality T1	0.48 ^{**}	0.39 ^{**}	0.04	0.04
Mental distress T1		−0.38 ^{**}		−0.12 ^{**}
Well-being T1			0.80 ^{**}	0.74 ^{**}

¹ 1 = woman; ² 1 = none; ³ Regardless of hours; ⁴ scientific = higher vocational education, bachelor’s degree, master’s degree, or postdoctoral degree; ⁵ kids, yes = at least one minor living at home (i.e., child). * $p < 0.05$; ** $p < 0.01$; R^2 = R square; β = standardized regression coefficient.

The results in Table 3 show spirituality at baseline as a significant predictor of well-being at follow-up. Higher levels of spirituality are associated with well-being at follow-up in Step 1 (adjustment for demographics) and Step 2 (adjustment for mental distress at T1). After swapping mental distress for well-being T1 in the models at Step 3 and Step 4 (full model, again including mental distress at T1), the association between spirituality and well-being at T2 was no longer significant. The standardized beta, $\beta = 0.80$ for model 3 and $\beta = 0.74$ for model 4, show that well-being T1 attracted almost all of the explanatory variance.

The main results, final associations in Step 5 with the seven subscales of spirituality (i.e., meaningfulness, trust, acceptance, concern for others, connectedness with nature, transcendent experiences, and spiritual activities) and well-being T1 are shown in Table 4, together with Step 1.

Table 4. Regression analysis results (standardized regression coefficients) for Step 1 and Step 5 for associations between well-being at follow-up and demographics, the seven subscales of spirituality at baseline (Step 1), mental distress (T1), and well-being (T1) (Step 5).

	Step 1	Step 5
	β	β
	$R^2 = 0.45$	$R^2 = 0.69$
Gender ¹	−0.08 *	0.00
Age	−0.05	−0.04
Relation ²	−0.03	−0.00
Paid job ³	0.00	0.01
Education ⁴	−0.01	0.03
Home living child ⁵	−0.03	−0.02
Mental distress T1		−0.04
Well-being T1		0.69 **
<i>7 Subscales of the Spirituality Attitude and Interest List questionnaire (SAIL)</i>		
Meaningfulness	0.44 **	0.11 *
Trust	0.30 **	0.07
Acceptance	−0.06	0.02
Concern for others	0.05	0.01
Connectedness with nature	0.03	0.01
Transcendent experiences	0.02	−0.03
Spiritual activities	−0.08	−0.06

¹ 1 = woman; ² 1 = none; ³ Regardless of hours; ⁴ Education, scientific = higher vocational education, bachelor's degree, master's degree, or postdoctoral degree; ⁵ kids, yes = at least one minor living at home (i.e., child). * $p < 0.05$; ** $p < 0.01$. β = standardized regression coefficient.

3.3. Prospective Association between Spirituality and Mental Distress

To get an impression on the development of well-being during the four-week follow-up in respect to the SAIL subscale of Meaning in Life (MiL), four groups were created in the highest tertile: Low MiL ($n = 254$), increase to highest MiL ($n = 72$), decrease to middle or lowest MiL ($n = 57$), and high in MiL ($n = 170$). An increase in well-being scores can be observed in the group with an increase in meaning in life scores (Figure 2). Apart from this, the figure demonstrates that the lowest well-being scores are clearly found for those with low MiL scores at both T1 and T2.

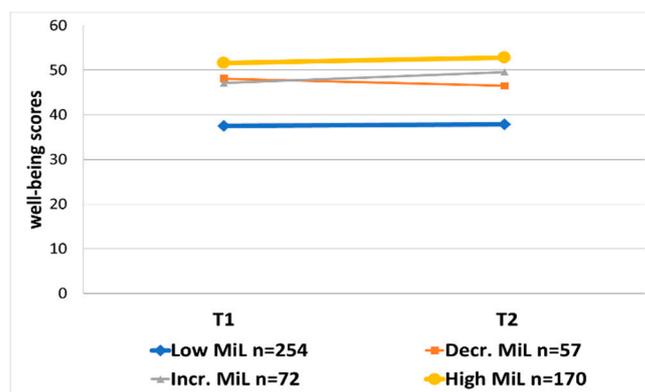


Figure 2. Course of the well-being scores for the four trajectories of Meaning in Life (MiL) subscale scores: lowest tertile (persistent), increase to highest tertile, decrease to middle or lowest tertile, and persistent lowest tertiles.

Table 5 shows the results of the hierarchical multiple-regression analysis for the test of the second hypothesis. Spirituality at baseline appeared to be a significant negative predictor for mental distress in the first step. However, this association was no longer significant after adjusting for well-being (T1) in Step 2 or mental distress (T1) in Step 3 or both in Step 4. Spirituality was no longer associated with mental distress when well-being at baseline was taken into account.

Table 5. The table shows the results of the stepwise hierarchical regression analysis for Hypothesis 2.

	Step 1	Step 2	Step 3	Step 4
	β	β	β	β
	$R^2 = 0.09^{**}$	$R^2 = 0.23^{**}$ $\Delta R^2 = 0.14$	$R^2 = 0.70^{**}$ $\Delta R^2 = 0.47$	$R^2 = 0.70^{**}$ $\Delta R^2 = 0.00$
Gender ¹	-0.10 *	-0.11 **	-0.02 **	-0.02
Age	-0.18 **	-0.18 **	-0.08 *	-0.08 **
Relation ²	0.04	0.06	0.01	0.01
Paid job ³	-0.09	-0.05	-0.01	-0.00
Education ⁴	0.02	0.01	0.01	0.01
Home living child ⁵	-0.08	-0.10 *	-0.05	-0.06 *
Spirituality T1	-0.20 **	0.03	-0.01	0.03
Well-being T1		-0.44 **		-0.09 **
Mental distress T1			0.81 **	0.78 **

¹ 1 = woman; ² 1 = none; ³ Regardless of hours; ⁴ Education, scientific = higher vocational education, bachelor’s degree, master’s degree, or postdoctoral degree; ⁵ kids, yes = at least one minor living at home (i.e., child). * $p < 0.05$; ** $p < 0.01$. β standardized regression coefficient.

Although the total spirituality score did not predict changes in mental distress, the results for the subscales demonstrated modest associations over time for two of the subscales, as shown in Table 6.

Associations with mental distress remained significant for the subscales of trust and transcendent experience after adjustment for baseline levels of distress and well-being. However, the associations were in opposite directions. Trust—understood as trust in the world, trust in oneself, keeping inner peace, and acceptance of life—was associated with a (small) decrease in mental distress over time. Transcendent experience, however, understood as an experience of “everything as perfect or clear” and “being part of a bigger whole,” was associated with a (small) increase in mental distress over time.

Table 6. Regression analysis results (standardized regression coefficients) of Step 1 and Step 5 for associations between mental distress at follow-up and demographics, the seven subscales of spirituality at baseline (Step 1), mental distress (T1), and well-being (T1) (Step 5).

	Step 1	Step 5
	β	β
	$R^2 = 0.42$	$R^2 = 0.71$
Gender ¹	0.03	0.00
Age	−0.16 **	−0.09 *
Relation ²	0.07	0.02
Paid job ³	−0.01	0.00
Education ⁴	0.00	0.01
Home-living child ⁵	−0.08 *	−0.06 *
Mental distress T1		0.71 **
Well-being T1		−0.06
<i>7 Subscales of the Spirituality Attitude and Interest List questionnaire (SAIL)</i>		
Meaningfulness	−0.35 **	−0.04
Trust	−0.42 **	−0.11 *
Acceptance	0.09 *	0.01
Concern for others	0.11 *	0.02
Connectedness with nature	0.01	0.00
Transcendent experiences	0.22 **	0.08 *
Spiritual activities	0.03	0.01

¹ 1 = woman; ² 1 = none; ³ Regardless of hours; ⁴ scientific = higher vocational education, bachelor, master, and postdoctoral; ⁵ Kids, yes = at least 1 minor living at home (i.e., child). * $p < 0.05$, ** $p < 0.01$; $R^2 = R$ square; β = standardized regression coefficient.

3.4. Additional Analyses: Possible Modification by Age, Education or Well-Being

Further regression analyses with well-being T2 as the outcome variable (adjusted for wellbeing T1) showed no interaction between spirituality and age (Age \times Spirituality T1), education (Education \times Spirituality T1) or mental distress (Mental distressT1 \times SpiritualityT1). Similarly, regression analyses with mental distress T2 as the outcome (adjusted for mental distress T1) showed no interaction between spirituality and age (Age \times Spirituality T1) and education (Education \times Spirituality T1). However, between spirituality and well-being T1 (Well-Being T1 \times Spirituality T1) an interaction was observed: $\beta = 0.05$; $p = 0.053$. Subsequently, stratified analyses with the subscales of spirituality were carried out for those with low levels of well-being at T1 (lowest half) and those with high levels (highest half). For respondents with low levels of well-being, a significant association between trust and the course of mental distress could be shown ($\beta = -0.22$; $p = 0.001$). For those with high levels of well-being, a positive association between spiritual activities and mental distress could be shown ($\beta = 0.10$; $p = 0.043$) (results upon request).

4. Discussion

This prospective study was conducted to gain more insight into how spirituality and mental health may relate to the two-continua model of mental health. The central question was whether spirituality predicts well-being and mental distress. The findings showed a substantial positive association between spirituality and well-being at follow-up, as well as a substantial negative association between spirituality and mental distress at follow-up. However, these associations disappeared when the initial levels of well-being or mental distress were taken into account. The illustrations showed that those with high

spirituality scores stayed at higher levels of well-being and lower levels of mental distress over the four week follow-up period. The in-depth analyses provided more insight into the relationship between spirituality and well-being. "Meaningfulness" had a significant, positive association with well-being over time, even if the initial level of well-being was taken into account. Spirituality also predicted changes in mental distress scores, especially in the subscales of trust and transcendent experience. However, these associations were in opposite directions. Therefore, for the subscales of spirituality, the pattern of associations with well-being and mental distress makes it clear that the subscales represent a substantial variety of components, sources, or aspects of spirituality. These aspects may even act in opposite directions. The specification of the aspects of spirituality under study seems to be justified, at least for quantitative studies.

"Meaningfulness" indicates that one is aware of one's place in life, experiences the things one does as meaningful, and believes that life has meaning and purpose (de Jager Meezenbroek et al. 2012). Several studies showed that meaning is an important facet of spirituality, specifically as part of the intrapersonal factor of spirituality; connection with oneself (Lifshitz et al. 2019; Tomás et al. 2016). According to Lifshitz et al. (2019), spirituality is characterized by four forms of connection: connection with oneself, with the community, with the environment, and with the transcendent. Their study also concluded that only the intrapersonal spiritual dimension, connection with oneself, was positively associated with better subjective life satisfaction in 306 Israelis aged 50 or older. Tomás et al. (2016) conducted a study on spirituality and life satisfaction in the elderly in Valencia, Spain. Here, too, the intrapersonal dimension, self-connection, appeared to make the most significant contribution to life satisfaction. The current study confirms the results of previous studies.

Within spirituality, two dimensions are distinguished: the intrapersonal and the transcendent (de Jager Meezenbroek et al. 2012). The present study was able to distinguish horizontal (intrapersonal) and vertical (transcendent) dimensions of spirituality. The two subscales corresponding to the vertical dimension, transcendental experiences and spiritual activities, showed no significant associations with changes in well-being over time. The same picture emerged during a study among Polish nurses (Deluga et al. 2020) on the influence of spirituality, in which the SAIL was also used. The above studies together with our results indicate that connecting with oneself, the intrapersonal factor of spirituality, has a greater influence on well-being than the transcendent dimension.

The significant negative association between spirituality at baseline and mental distress at follow-up disappeared after adjustment for well-being and mental distress at baseline, thus rejecting the second hypothesis. However, in-depth analyses show that in mental distress, the trust subscale was associated with a decrease in mental distress, whereas the transcendental experience subscale was associated with an increase of mental distress. Stratified analyses with low and high levels of well-being showed, in the group with the lowest well-being, a negative association between trust and mental distress, which possibly indicates a protective function of trust against mental distress. In the group with high well-being, the week positive association between spiritual activities and mental distress indicates that these activities contribute mental distress. Further research is needed to determine which activities these could be.

4.1. Practical Implications

Although the current findings showed only a modest prospective association between subscale meaningfulness and well-being, these findings were still significant after stringent adjustment for mental distress as well as well-being at the baseline scores. In the literature, several clinical interventions that focus on meaning in life have been described. During therapy, such as the logotherapy of Viktor Frankl (Schulenberg et al. 2008), the existential psychotherapy of Irvin Yalom (Rayner and Vitali 2016), and the narrative therapy of White and Epston (White and Epston 1990), interventions are made to focus on a meaningful and purposeful life. More recent forms of meaning in life therapy are, for example, meaning therapy (Wong 2010) and meaning-centered therapy (Breitbart et al. 2018; Spek et al. 2017).

The interventions from geriatric psychology, such as reminiscence and life review, also focus on strengthening meaning through autobiographical reflection (Westerhof 2019). Several meta-analyses support the effectiveness of these therapies (Bauereiß et al. 2018; Bohlmeijer et al. 2007; Bohlmeijer et al. 2003; Park et al. 2019; Piquart 2002; Vos et al. 2015). The importance of meaning in life should be a topic in healthcare education. In addition to the above-mentioned therapies, meaning in life should also be discussed by other practitioners of mental healthcare, such as general practitioners or occupational physicians.

4.2. Limitations

One limitation of the present study pertains to the composition of the sample. The demographic analysis of the study population shows that more women (69%) than the national average have participated. The participants in the present sample were more scientifically educated, which could partly explain the positive relationship found between spirituality and well-being. For example, McClintock et al. (2016) reported a significant correlation between education and spirituality in a large-scale survey of residents of China, India, and the US. In developing the SAIL questionnaire, a positive correlation between education and spirituality was also found (de Jager Meezenbroek et al. 2012). In short, this sample composition may impair the generalizability to the general population. It may be that the correlation between spirituality and well-being is less strong in a well-mixed sample.

A second limitation is the missing control for response bias and Big-5 personality factors during the data collection, furthermore, no correction is applied for social desirability and acquiescence biases. This should be addressed in future research.

5. Further Research and Conclusions

Most likely due to the four-week follow-up, no temporal or causal relationship between meaningfulness and well-being could be substantiated. A longer follow-up period, for example 6 months, would be desirable. In this study, only mixed effect of the vertical dimension of spirituality could be traced. Perhaps this dimension deserves a more extensive assessment, as the SAIL only has two subscales for this dimension. It is recommended that the difference in the vertical and horizontal dimensions of spirituality be further examined, especially in those cases where people have lost their feelings of connection. For example, one might focus on people who lost their feelings of connection in daily life during a period of depression or due to work-related issues such as burnout. The current SAIL items on vertical transcendence still depend on more traditional elements of religiousness. One may question how the vertical spiritual dimension could be assessed more accurately, with an emphasis on its experiential potential, positive or negative or both.

SAIL, used in this research, does not differentiate between spirituality and religion. Especially in the Netherlands, which is a highly secularized and pluriform country, it is advisable to make a clear distinction between spirituality and religion. In the case of religious struggle, even a negative influence on the vertical dimension can be expected. Further research on spiritual struggle will increase the knowledge concerning the vertical dimension in secular groups of people.

This study underscores the critical role of meaning in life, emphasizing the significance of Park's model of meaning-making (Park 2010). Future research could concentrate on exploring how mental distress may influence a meaning-making process, thereby influencing the overall meaning of life for individuals dealing with mental stress.

In conclusion, this study demonstrates one predictive potential of spirituality, as represented by the intrapersonal factor of meaningfulness, as an independent positive predictor of well-being. Trust and transcendent experience indications were found for a short-term predictive value of spirituality in general for mental distress.

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