

Spirituality and Resilience: New Insights Into Their Relation With Life Satisfaction and Depression

ORIGINAL PAPER

Spirituality is not only commonly under debate as part of peoples' quest for meaning, but has also been subject to many studies concerning its influence on people with severe illnesses. The current research aims at investigating its influence on mental health. For this purpose a four-scale questionnaire was used to test peoples' spirituality and resilience as well as their life satisfaction and current symptoms of depression. To diversify the sample the survey was conducted in three languages, namely English, German and Dutch. Spirituality was found to correlate positively with life satisfaction and negatively with depression. Furthermore, resilience was identified as a mediator of the effect of spirituality on depression and as a partial mediator for the effect on life satisfaction. This study therefore suggests spirituality and resilience could be valuable factors in promoting peoples' mental health.

Keywords: spirituality; life satisfaction; depression; resilience; mediation

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INTRODUCTION

A lot is known about the positive influence of spirituality on chronic pain (Büssing et al., 2009) and on cancer patients. Research showed positive associations of spirituality with hope and quality of life and negative correlations with depression and anxiety in those patients (Berg, Garssen, de Jager Meezenbroek, & Visser, 2005;

Visser, Garssen, & Vingerhoets, 2009). In addition, Doster, Harvey, Riley, Goven, and Moorefield (2002) found that spiritual people displayed less cardio-vascular risk factors, such as high levels of cholesterol or high blood pressure (Doster et al., 2002). Spirituality can be seen as a particular way of perceiving and interpreting the world (Lindeman, Blomqvist, & Takada, 2012), independent of religion and as shown, it affects people's health.

However, very little is known about the influence of spirituality on mental health in a healthy population. Mental Health is generally not only defined by the absence of mental disorders (The World Health Organization (WHO), 2001), but in the field of positive psychology also includes the acquisition of new resources (Seligman, Steen, Park, & Peterson, 2005). Nowadays people in the European Union work on average 41.4 hours per week under increasing time pressure (Eurofound, 2010) and weekend shifts have increased about 4.7% over the past 10 years (Wisdorff, 2013). Although work generally has a positive and meaningful effect, it can also become a strain when it is immoderate (Lohmann-Haislah, 2012). The workload then results in stress, which in turn can lead to a depressed immune system, fatigue and high blood pressure (Lohmann-Haislah, 2012). Automatic stress responses of the body include emotional and psychological arousal, impulsive action, intrusive thoughts, and some form of escape behavior (Lee, Cheung, & Kwong, 2012). This response can lead to depression or burnout, which are now widespread hardships that people face, evident from 53 million sick days taken in Germany in 2012 due to mental illnesses (Lohmann-Haislah, 2012). Given all this data, there is an imperative to find resources that can make people stronger in times of stress.

While everybody faces stress and adversities in life, some people seem to "bounce back" to or maintain a healthy mental status more easily than others. The American Psychological Association (APA) defines this "bouncing back" from challenging experiences as resilience, which is "the process of adapting well in the face of adversity, trauma, tragedy, threats, or even significant sources of stress - such as family and relationship problems, serious health problems, or workplace and financial stressors" (Comas-Diaz et al., n.d.). The APA acknowledges that there can be various burdening factors that people have to deal with in life. These factors include unexpected events, such as accidents, severe illnesses, or the loss of a loved one. Furthermore hardships can result from troublesome family or work situations. Additionally monetary issues can put a great strain on people. Resilient people have the capacity to accommodate to these kinds of problems.

This capacity has been defined by Block and Kremen (1996) as ego-resiliency, a dynamic reaction to the "demand characteristics of the environmental context, so as to preserve or enhance system equilibration" (p.351). This suggests that everybody has a characteristic level of self-control, and ego-resiliency is the ability to return to this level after being under a stressful influence.

Similarly to ego-resiliency, Reich, Zentra and Hall (2010) differentiate between two aspects of resilience: a recovery aspect and a sustainability aspect. While recovery refers to the duration and quality of readjustment after a specific experience or period of stress, sustainability refers to the ability to stay healthy or even improve one's own mental health as a sound reaction to stress. These authors propose resilience is actually an active decision to stay healthy (Reich et al., 2010)

similar to the APA's characterization of resilience as an active process and not a trait that people either have or do not have. Resilience can thus be learned and trained, even when the circumstances in childhood have not been ideal to build effective strategies against stress and adversities. However, apart from trainable factors there are further indicators that contribute to resilience and are very reliable markers in predicting peoples functioning and mental health through adversities. Three factors should be emphasized. First of all, various personal characteristics are contributors to resilience, including an agreeable temperament and the ability to regulate oneself. Secondly, close relationships with family and capable friends can predict a good outcome when struggling through hardships. These relationships include a warm and trusting relationship with one's parents. Finally, external structures that are supportive play an important role in peoples' functioning under adverse conditions. Structures such as an affluent neighborhood, good quality schools, and contact to prosocial organizations are linked to such positive effects (Garmezy, 1987). These multidimensional characteristics of resilience make it a key variable in predicting positive outcomes in the face of adversities (Lee et al., 2012). A decreased chance of becoming depressed and a higher satisfaction with life are likely to be part of these positive outcomes.

Similarly to resilience, life satisfaction can be partly seen as an active decision. It is a personal and subjective assessment of one's situation at a certain point in time and can include people's desire to change their life, their satisfaction with the past and the future as well as the view of significant others on their life (Beutell, 2006). Together with positive and negative affect life satisfaction is one of the three main contributors to well-being (Diener, Emmons, Larsen, & Griffin, 1985). As such it is an active decision to consider one's life as satisfying or not and this decision can be influenced by internal factors (i.e. spirituality) as well as external factors (i.e. relationships). Conversely, people who do not consider their lives to be satisfying have a greatly increased risk for depression (Fisher et al., 2014).

Approximately 18.4 million Europeans suffer from a depression ("European Alliance Against Depression," n.d.), which not only leads to a depressed mood and loss of pleasure in nearly all activities, but can also result in a diminished ability to think or concentrate, insomnia or hypersomnia and fatigue or loss of energy (American Psychiatric Association, 2000, Diagnostic and Statistical Manual of Mental Disorders, 4th ed., text revision). Depression greatly affects peoples' daily routine - due to their loss of energy they struggle even with usually easy tasks, such as getting up in the morning or going to work. Some might lose their hope, while others hold on to their faith.

While 95% of the Americans believe in God, most people in secular societies like Germany and the Netherlands describe themselves as 'spiritual, but not religious' (Shahabi et al., 2002). In 1996, 50% of the Dutch were members in a congregation (Berg et al., 2005). According to Kaski (2013), this number went down to 35,2% in 2011 (Kaski Centrum, Radboud Universiteit Nijmegen, 2013). This has to be taken into account for research asking people about their faith, their religion and their spirituality - and it is important that each are distinguished from the other (Zwingmann, Klein, & Büssing, 2011). On this account, this study asks about spirituality only. While faith and religion necessarily include the belief in God or

gods ("Faith", 2013), spirituality is characterized by individuality and innovation and is not institutional and traditionalistic. Moreover spirituality is open in terms of not being determined by rules and regulations but based on experiences instead of dogmas like traditional religions are. Spiritual people believe in 'some kind of higher power' without necessarily calling this power God. Nowadays spirituality has become more and more of a trend, supporting peoples quest for meaning. The topic can be found on bestseller lists as well as on yoga and meditation schedules and can provide and restore meaning and purpose in life and give hope to people, which makes it easier for them to endure difficult times or face life threatening illnesses (Bucher, 2007). Besides that, prayer or other spiritual traditions can stabilize people in times of uncertainty (Cornah, 2006). A Study of Putnam in 2006/2007 revealed that there was no difference in belief or religious behavior within one year when people joined or left church (Putnam & Campbell, 2012). These results imply that the pure church membership does not have a strong influence on belief but that this is a very personal and intrinsic process. As a result spirituality seems to be the underlying motivation to believe and may operate independently of a church membership.

The previous scientific results imply that resilience and life satisfaction are influenced by many factors and that they can have a positive effect on the mental health of people. Spirituality has been identified as one possible factor to have such effects, as it has been proven valuable in chronic pain and cancer patients. The present research thus investigates the question if spirituality fosters resilience and if it correlates with higher degrees of life satisfaction and less symptoms of depression. I examined whether spiritual people are more resilient and thus more satisfied with their lives, also showing less symptoms of depression. This leads to the following Hypotheses:

Hypothesis 1: Spirituality is positively correlated with life satisfaction.

Hypothesis 2: Spirituality is negatively correlated with depression.

Hypothesis 3: Resilience mediates the positive correlation between spirituality and life satisfaction as well as the negative correlation between spirituality and depression.

A trilingual questionnaire research was used to test these three hypotheses.

METHODS

Participants

A total of 344 people participated in this study. One participant was under the age of 18 and thus had to be excluded from the analysis, which lead to a total of 239 female and 104 male participants (N=343). Their mean age was 31.86 (SD= 16.06). 62.1% of the participants were native German speakers (N=213), 13.1% English (N=45) and 24.8% Dutch natives (N=85). The sample included people with different vocational qualifications and different employment situations. 34.3% graduated from high school and 32.4% had a university degree. 8.2% even had a post-graduate degree

and an apprenticeship had been finished by 6.1%. The rest finished 10th grade or less or had taken some other type of education. The majority of the sample consisted of students (56.3%) and people in full- or part-time occupation (33.5%). The rest were pensioners or housewives or had another occupation. Only 1.5% of the sample was unemployed. While most participants (88.8%) were born in a variety of European countries, 7.3% were born in North America and 2.1% in Asia. Only few participants were born in South America (0.3%), Africa (0.3%) or Australia and New Zealand (0.9%). Two participants failed to answer this question.

Potential participants received a link via email inviting them to the study 'My view on life'. Furthermore students from Maastricht University had the possibility to receive the participation link via SONA-Systems and in exchange for their participation they received 0.5 participation points. Further possible participants were reached via snowball sampling. The invitation clearly stated that only English, German and Dutch native speakers were allowed to participate in this study and that participants had four weeks to fill in the questions. Following the email link brought participants to the questionnaire, which was conducted using SurveyGizmo (www.surveygizmo.com). The first page gave them the opportunity to choose their mother tongue (English, German, Dutch or Other) and subsequently participants were redirected to the questionnaire fitting their mother tongue or to a page displaying that they were not eligible to participate in case they chose 'Other'.

The questionnaire consisted of 68 questions including 6 Socio-demographic questions, 26 questions addressed spirituality, 5 asked about life satisfaction, 6 about symptoms of depression and 25 addressed resilience.

Materials

All materials were provided in English, German or Dutch depending on the participant's native language. Values for Cronbach's alpha of each scale are reported in Table 1. Cronbach's alpha for each scale per language are reported in Table 2.

General measures

Data from the questionnaire were analyzed using SPSS Version 19. To assess socio-demographic information of each participant some general questions were asked in the survey. The answer options for 'highest completed educational level' were adapted to fit the norms of Germany, the Netherlands and English speaking countries respectively. Participants were asked to state their gender, age, marital status, highest completed educational level, country of birth, and their current employment situation.

Spirituality

Spirituality was measured using the Spiritual Attitude and Involvement List (SAIL), a 26-Item Scale with answers ranging from 1 ("Statement applies not at all to me") to 6 ("Statement applies to a very high degree to me"). It was originally designed to get more insight into the role of spirituality in dealing with cancer by asking the participant to rate statements like "I approach the world with trust". SAIL has seven subscales (i) Meaningfulness, (ii) Trust, (iii) Acceptance, (iv) Spiritual Activities, (v)

Transcendent Experiences, (vi) Care for others, (vii) Connectedness with Nature. However, in this research the scale was analyzed as a whole. It has been proven valid and reliable in groups of students, healthy participants and cancer patients (Meezenbroek et al., 2012). The scale was originally conceptualized in Dutch and English by de Jager Meezenbroek, Garssen and van den Berg (2008). As part of this research project it was translated into German with the help of bilingual students without a translation-retranslation procedure.

In the analysis phase all scores were summed up per person for the correlation and mediation analysis. Low sum scores reflect low spirituality, whereas high sum scores reflect high spirituality.

Life Satisfaction

The Satisfaction with Life Scale (SWLS) was designed to assess global life satisfaction. Life satisfaction is the cognitive aspect of the three contributors to subjective well-being. It requires a judgment about the personal situation (Diener et al., 1985). To measure people's overall judgment of their life Diener et al. (1985) designed a five-item scale. People could agree or disagree on a Likert-scale ranging from 1 ("Strongly disagree") to 7 ("Strongly agree") to questions like "In most ways my life is close to my ideal".

The single scores for every question were summed up per participant. Low sum scores reflect less Satisfaction with Life, whereas people with high sum scores are very satisfied with their life. The English scale of Diener et al. was translated back-to-back into Dutch by van Doorslaer (2007) and into German by Glaesmer, Grande, Braehler, and Roth (2011).

Depression

Symptoms of depression were measured using the Four Dimensional Symptom Questionnaire (4-DSQ). This questionnaire covers Symptoms of distress, depression, anxiety and somatisation, however for this research only the six questions concerning depression were used to determine participants' current condition, as the questionnaire focuses on symptoms that were present during the last seven days. The questions asked about the occurrence of specific symptoms, for example "During the past week, did you feel that everything is meaningless?" with answer options ranging from 1 ("No") to 5 ("Very often or constantly"). Answer "No" was scored with zero points, answer 2 ("Sometimes") was scored with one point and all other answers with two points. These scores were summed up separately for every participant. Sum scores of two or lower reflect a normal amount of symptoms of depression. Sums between three and five are considered to be moderately elevated and all scores >6 to be highly elevated (Terluin, 1998).

The scale was designed by Terluin in Dutch (1996) and English (text revision 2010), and translated into German by van den Bussche, Hautus, and Prakke (2008).

Resilience

Resilience was tested using the RS-25 (25-item Resilience Scale). This one-dimensional scale with 25 items uses a seven-point rating with 1 equal to "Strongly Disagree" and 7 equal to "Strongly agree". As resilience is not a trait it is measured

as a capacity and willingness to maintain a healthy status. Two studies were able to prove the validity and internal consistency of the scale (Wagnild & Young, 1993; Schumacher, Leppert, Gunzelmann, Strauß, & Brähler, 2005).

The total sum of every participant was used to analyze the person's state of resilience. People who score 25 to 100 are very low in resilience and people who score between 101 and 115 are low. Scores ranging from 116 to 130 are still moderately low, but scores above 130 to 145 are moderately high. People who have a sum score between 146 and 160 have a high resilience score and people between 161 and 175 a very high resilience score (Wagnild & Young, 1993). The scale was translated into German by Schumacher, Leppert, Gunzelmann, Strauß, and Brähler (2005). Due to the fact that the Dutch version of the RS-25 was not available free of charge, it was translated by bilingual students for the purpose of this research.

Procedure

The ethical committee of the Faculty of Psychology and Neuroscience at Maastricht University approved the conduction of this research.

The questionnaire started with a description of the survey and participants were provided with an email-address in case they had concerns or questions about the questionnaire. This text also described the requirements to participate in the study. Afterwards they had the choice to confirm that they have read the information and agree with it or not. Participants were first asked to fill in the SAIL followed by SWLS and 4-DSQ. Last they filled in the RS-25. Throughout the questionnaire were explanatory texts that also implied that there were no correct or incorrect answers. The last page asked the participants to answer some socio-demographic questions and they had the chance to leave their email-address in case they wanted to receive further information. After submitting the data a new screen appeared displaying the debriefing and thanking the participants for their participation. Once again an email-address was provided in case there were any further questions. The completion of the full questionnaire took about 20 minutes.

<L2> Statistical analysis <L2>

Descriptives were calculated for the socio-demographic questions. Furthermore all raw data of the questionnaires was tested with a Test of Normality (Kolmogorov-Smirnov). Reliability was tested with the internal consistency coefficient Cronbach's alpha and Correlations were calculated with a non-parametric Spearman's rho. To test for mediation, a Linear Regression was applied. Oneway ANOVA was used to check for differences between mean scores of the different language groups. In case of significant findings, post-hoc tests were done using Bonferroni correction.

RESULTS

Descriptives

Tests for Normality showed that scores for depression and life satisfaction were not distributed normally (Kolmogorov-Smirnov $p < .001$ respectively). The majority of the participants were not depressed (78.7% had normal scores and only 12.2% and 9.0% had moderately or strongly elevated scores, respectively). Resilience was also not normally distributed (Kolmogorov-Smirnov $p < .001$). Analysis of spirituality scores revealed that it was distributed normally (Kolmogorov-Smirnov $p < .201$). Mean values and standard deviations are reported in Table 1.

Table 1. Cronbach's alphas, Means, Standard Deviations and Spearman Correlations

Variable	Cronbach's α	M	SD	Range	1	2	3	4
1. Spirituality	.88	100.95	15.03	26-1561				
2. Life Satisfaction	.87	24.73	5.82	5-352	.35**			
3. Depression	.86	1.55	2.52	0-123	-.24**	-.45**		
4. Resilience	.90	130.16	18.52	25-1754	.53**	.47**	-.46**	

** $p < .01$ (two-tailed).

Cut-off values: 1) 26 – not spiritual, 156 – very spiritual, 2) 5 – very dissatisfied, 35 – very satisfied, 3) 0 – normal, 12 – strongly elevated, 4) 25 – less resilient, 175 – very resilient

Due to the fact that most variables were not distributed normally nonparametric tests were used to test correlation. Spirituality was positively related to life satisfaction and resilience. Depression displayed significant correlations with spirituality, resilience and life satisfaction in the expected negative direction. Life satisfaction and resilience were positively correlated. All correlations were significant at the .01 level (two-tailed) (see Table 1).

Differences between language groups

Mean-scores varied between the different native languages (see Table 2). Germans scored highest and Dutch natives lowest on spirituality. Similar results were found for depression. Germans showed the fewest symptoms, while Dutch the most. German natives were furthermore most satisfied with their lives while English and Dutch natives displayed slightly lower scores. Only on resilience scores English natives scored the highest while Dutch had a much lower mean score.

Table 2 Means and Standard Deviations per Language

Variable	English	German	Dutch
1. Spirituality			
M (SD)	99.58 (16.15)	105.56 (13.37)	90.11 (12.58)
Cronbach's α	.877	.850	.850
2. Life Satisfaction			
M (SD)	22.38 (8.21)	25.53 (4.95)	23.98 (5.97)
Cronbach's α	.933	.826	.888
3. Depression			
M (SD)	1.89 (3.15)	1.26 (2.29)	2.11 (2.61)
Cronbach's α	.907	.855	.825
4. Resilience			
M (SD)	135.67 (22.54)	133.26 (16.87)	119.47 (16.00)
Cronbach's α	.917	.889	.854

Mean age ($M_{Dutch} = 21.42$, $M_{English} = 31.18$, $M_{German} = 36.16$) significantly differed between the three language groups ($F(2,341)=29.546$, $p<.001$) as well as mean scores of all four variables (spirituality: $F(2,340)= 39.64$, $p<.001$; life satisfaction: $F(2,340)= 6.59$, $p<.002$; depression: $F(2,340)= 3.98$, $p< .02$; resilience: $F(2,340)= 21.41$, $p<.001$). Results of the post-hoc tests are displayed in Figure 1.

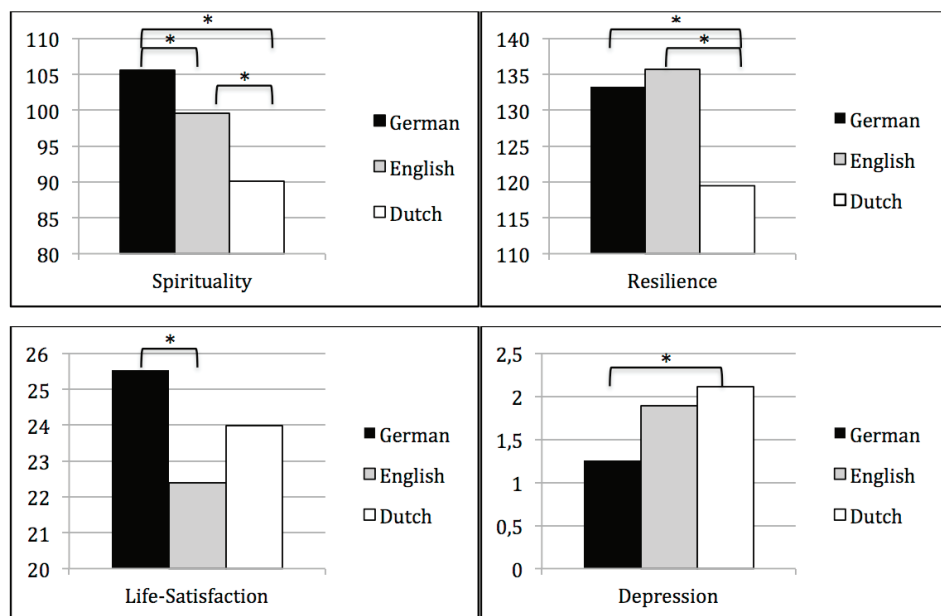


Figure 1. Differences Between Language Groups.
* significant at the .05 level

Mediation analysis

The hypotheses were further tested with the linear regression approach. In the first step spirituality was entered as a predictor for life satisfaction to test hypothesis 1. The results confirm that spirituality is a significant predictor for life satisfaction. The same significant result was found for spirituality as a predictor for depression (see Table 4.a and 4.b).

Table 4.a Results of Regression Analysis and Mediating Effect of Resilience on the Relation of Spirituality With Life Satisfaction

Predictor	Step 1			Step 2			Step 3			Step 4			
	ΔR2	B	β	ΔR2	B	β	ΔR2	B	β	ΔR2	B	β	
Spirituality	.15*	.15*	.39*	.31*	.69*	.56*						.06**	.15**
Resilience							.27*	.16*	.52*			.14*	.44*
R2 total												.29*	

*p<.01, **p<.05,

Table 4.b Results of Regression Analysis and Mediating Effect of Resilience on the Relation of Spirituality With Depression

Predictor	Step 1			Step 2			Step 3			Step 4			
	ΔR2	B	β	ΔR2	B	β	ΔR2	B	β	ΔR2	B	β	
Spirituality	.07*	-.04*	-.26*	.31*	.69*	.56*						.00	.03
Resilience							.25*	-.07*	-.50*			-.07*	-.52*
R2 total												.25*	

*p<.01

If resilience functions as a mediator between spirituality and the two dependent variables it has to meet the following conditions according to Baron and Kenny (1989): “(a) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e. Path a), (b) variations in the mediator significantly account for variations in the dependent variable (i.e. Path b), and (c) when Paths a and b are controlled, a previously significant relation between the independent and dependent variables is no longer significant” (p.1176). The pathways are displayed in Figures 2 and 3.

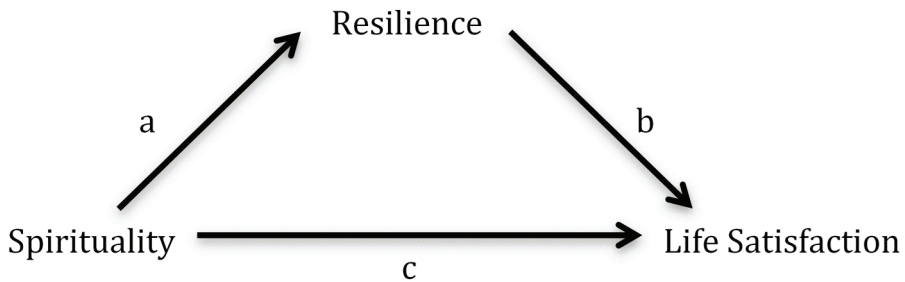


Figure 2 Mediation Model 1. Pathway a exemplifies the effect of the independent variable (spirituality) on the mediator (resilience), pathway b illustrates the effect of the mediator on the dependent variable (life satisfaction), pathway c demonstrates the direct effect of the independent on the dependent variable.

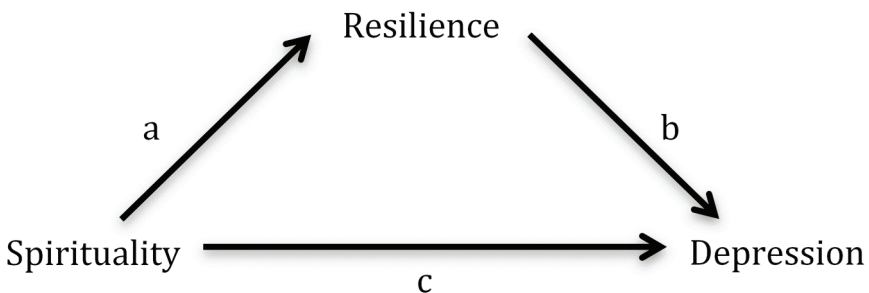


Figure 3 Mediation Model 2. Pathway a exemplifies the effect of the independent variable (spirituality) on the mediator (resilience), pathway b illustrates the effect of the mediator on the dependent variable (Depression), pathway c demonstrates the direct effect of the independent on the dependent variable.

Additionally to step 1.a and 1.b (spirituality as a predictor for life satisfaction (step 1.a in Table 4a) and as a predictor for depression (step 1.b in Table 4b)), spirituality was tested as a predictor for resilience to fulfill condition (a) (Step 2). The significant result shows that 31% of variance of resilience is explained by spirituality (see Table 4a, Step 2 ΔR^2). Step 3 involved a test for the direct relation between resilience and life satisfaction or depression. Step 4 tested if resilience fully mediated the relation between spirituality and life satisfaction and the relation between spirituality and depression. This test requires a regression equation with spirituality and resilience both as predictors of life satisfaction and depression respectively. The results revealed that resilience functions as a partial mediator for the effect between spirituality and life satisfaction and as a full mediator for the effect between spirituality and depression. There is still a significant correlation between spirituality and life satisfaction (see Table 4.a, Step 4 $\beta=.15$). The prior significant Path c between spirituality and depression is not significant anymore when resilience is entered as a predictor, fulfilling condition c (see Table 4.b, Step 1 $\beta=-.26$ ($p<.01$), Step 4 $\beta=.03$ ($p>.71$)).

The results of the regression analysis confirm that resilience functions as a mediator for the effect between spirituality and depression but only partially mediates the relation between spirituality and life satisfaction.

Mediation analysis of German language group

The same mediation analysis was conducted separately for the group of German natives to test the effects in the biggest, culturally more homogenous sample. Results are displayed in Tables 5.a and b. Even though the effect of spirituality on life satisfaction was not significant anymore when resilience was added as a predictor (Step 4), the correlation does not dissolve completely. As a result there is a tendency of resilience as a mediator for the effect between spirituality and life satisfaction, but it does not fully mediate this effect. The rest of the results were comparable to those of the analysis of the whole sample.

Table 5.a Results of Regression Analysis and Mediating Effect of Resilience on the Relation of Spirituality With Life Satisfaction Analyzing German Natives Only

Predictor	Step 1			Step 2			Step 3			Step 4		
	ΔR2	B	β	ΔR2	B	β	ΔR2	B	β	ΔR2	B	β
Spirituality	.12*	.13*	.34*	.25*	.63*	.50*					.05	.14
Resilience							.23*	.14*	.48*		.12*	.42*
R2 total										.25*		

*p<.01

Table 5.b Results of Regression Analysis and Mediating Effect of Resilience on the Relation of Spirituality With Depression Analyzing German Natives Only

Predictor	Step 1			Step 2			Step 3			Step 4		
	ΔR2	B	β	ΔR2	B	β	ΔR2	B	β	ΔR2	B	β
Spirituality	.06*	-.04*	-.25*	.25*	.63*	.50*					.00	.02
Resilience							.23*	-.07*	-.48*		-.06*	-.47*
R2 total										.23*		

*p<.01

DISCUSSION

The questionnaire implemented in this study investigated the role of spirituality as a source of resilience and its effects on life satisfaction and depression. While the first hypothesis, namely the positive correlation of spirituality with life satisfaction could be confirmed, the negative correlation between spirituality and depression (hypothesis 2) dissolved after resilience was added as a mediator. The results thus

indicate a significant direct effect between spirituality and life satisfaction but no such effect for depression. The data from the mediation analysis indicate that spirituality positively correlates with resilience, which in turn negatively correlates with depression. This suggests that spiritual people may be more resilient and should be less vulnerable for depression. Although spirituality has no direct effect on depression it can be seen as valuable contributor to the mental health of people through building resilience.

A similar effect was found for the mediating role of resilience on the relation between spirituality and life satisfaction, however resilience only partially mediates this relation and a direct effect of spirituality on life satisfaction remains. These results show the positive direct correlation of spirituality with life satisfaction as well as an indirect effect of spirituality on life satisfaction (partially mediated by resilience). Nevertheless, as the direct effect is smaller than the indirect effect there seems to be more to life satisfaction than just spirituality. Lyubomirsky, Sheldon, and Schkade (2005) proposed in their model of happiness that apart from 50% being due to genetics and 10% due to the circumstances, 40% of happiness could be influenced by deliberate actions. Among other things, these 40% could be determined by spiritual activities as well as building resilience and thus lead to higher life satisfaction. Similarly, depression can be caused by a variety of factors, such as a genetic predisposition, an unfortunate life experience or a negative way of thinking (Davey, 2008). While resilience can help people recover (“bounce back”) from unfortunate experiences, spirituality can positively influence their way of thinking. Saying this, both factors seem to be valid contributors to mental health.

Besides life satisfaction and depression, which are influenced by many factors, resilience also has multidimensional characteristics. All three exhibit internal and external aspects such as genetics, personal characteristics or an active and positive way of thinking as internal factors and supportive structures, circumstances or relationships as external factors. Resilience can thus be an internal as well as an external contributor to life satisfaction and depression and can itself be influenced by spirituality, either as a way of thinking or seeing things along with building a community of support.

The strong correlation of resilience with both life satisfaction and depression makes it a good predictor for a positive mental health status. Overall, resilient people seem to have good coping skills to be significantly more satisfied with their life and be less vulnerable for depression. In a longitudinal study Kasen, Wickramaratne, Gameraff, and Weissman (2012) identified religiosity/spirituality and service attendance as a resilience factor in participants with high risk for major depression. When interpreting these results it has to be taken into account that these authors did not differentiate between the concepts of religiosity and spirituality. In line with this study the current research supports these findings and expands the current knowledge by introducing resilience as a mediator. It defines the relation between spirituality, resilience and depression by establishing a mediation model and evidences that there is no direct effect of spirituality on depression.

Taking the current increase in workload and the resulting consequences into account, an establishment of protective factors is of utmost importance. In the academic field, the present study extends the existing knowledge about the positive

influence of spirituality on general health to the field of mental health and its results suggest that spirituality could function protectively against depression through resilience. The data suggests that, besides other factors, spirituality is as a worthy contributor to peoples' mental health and it advocates that spirituality should be promoted as a natural support factor that has been known in many cultures for centuries. It should not be waved aside as a backward tradition that is not necessary in a modern society. The current research highlights the broader implication that even though spirituality is a very wide and open concept it has a great influence of peoples' frame of mind and can improve peoples' ability to successfully conquer stress. This is especially valuable in economically difficult times, when for example people fear losing their job. What is more is that in modern societies up to 50% of all marriages break up (Eurostat, 2012) and families become less coherent. This poses a great source of stress for all persons involved and can threaten their mental health. Overall this research evidences that spirituality can be seen as an important resource to build resilience to improve chances of a positive outcome of such situations.

Limitations and future directions

This present study contains some limitations. Even though resilience has been identified as a mediator, mediation is only a theoretical model and does not explain any causality. Therefore, the role of resilience in this context needs further investigation. Moreover, the concept of resilience is still not fully understood and future research should focus on locating further factors that contribute to resilience. The differences between the three languages groups in this research might result from the different mean age as well as differences in the translations of the questionnaires.

To correct for the effect of age an Analysis of Covariance (ANCOVA) should be applied with age as the covariate to discover if there is a relation between age on the one hand and resilience, spirituality, life satisfaction, and depression on the other hand.

Culturally different interpretations of the questions could have occurred and the reliability of the results of this research might be limited due to the translation of some of the scales, however the analysis of the internal consistency of each of the scales per language shows that they are comparable to the original scales. It remains unclear if the effects of spirituality and resilience are equally present in men and women.

Due to the large sample size and the cross-cultural character of this research the results are more generalizable. Moreover, the diversity of participants (gender, age, and education) makes the data applicable to a variety of other populations. The mediation analysis of the German language group displayed very similar results and it can be thus concluded that the results are applicable to more homogenous samples as well. However it should be analyzed if the relations found in this research are the same within each of the different samples. This analysis was not possible in this research due to small sample sizes in the English and Dutch language groups. Future research could further investigate the impact of spirituality and resilience, by dividing people into groups according to their spirituality and encourage and support parts of these groups in building resilience. With controlled experimental

research it might be possible to establish spirituality as a causal influence on life satisfaction and depression and to further establish resilience as a powerful mediator.

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