Bachelorthesis:

Can Wellbeing Be Predicted by Resilience, Positive Emotions, Acceptance and Valued Living Among Patients with Rheumatism?

Marina Klostermann
S1561138

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Faculty of Behavioural Management and Social Sciences (BMS)
Positive Psychology & Technology

First Supervisor:
Dr. Erik Taal

Second Supervisor:
Dr. Peter ten Klooster

UNIVERSITY OF TWENTE.

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Abstract:

Patients suffering from chronic diseases like rheumatism do not only have to cope with restrictions of motion and other physical strains, but also with the psychological effects of the disease. Rheumatic patients often experience more anxiety, negative emotions and depression than the general population, limiting their quality of life. Therefore, it was important to explore the determinants of wellbeing and predictors of flourishing versus non flourishing patients.

This study made use from data of a questionnaire survey conducted in 2015 with 69 participants. The survey consisted of five questionnaires: Mental Health Continuum-Short Form (MHC-SF) measuring wellbeing, the Brief Resilience Scale (BRS) assessing resilience, the Positive Affect and Negative Affect Schedule (PANAS) measuring positive emotions, the Acceptance and Action Questionnaire II (AAQ II) assessing acceptance, and the Engaged Living Scale (ELS) measuring valued living.

A moderate to high correlation was found between resilience, positive emotions, acceptance, valued living and overall wellbeing. Valued living and positive emotions were significant unique predictors of wellbeing with positive emotions as strongest predictor. However, no study variable could make a significant contribution in predicting flourishing patients.

Because of a moderate to high relation between positive emotions, valued living, resilience as well as acceptance and overall wellbeing, all variables appeared to influence wellbeing positively. However, only valued living and positive emotions as the unique predictors of wellbeing contributed to the quality of life of the patient. As no study variable could predict flourishing patients significantly, there might be other variables which are more proper predicting flourishing patients.

The insights of this study can help future researchers to find the factors leading to wellbeing in rheumatic patients. With these insights, an intervention can be constructed and implemented to promote wellbeing in patients with rheumatism.

Introduction

Rheumatism

Chronic diseases such as rheumatism have a great impact on people's functioning and living and there is an increased affliction of rheumatism all over the world. Rheumatic diseases can be described as any diseases of the musculoskeletal system including joints, muscles, tendons, bones, gristles and bursae (Brieden, 1999). In the United States, the number of people suffering from rheumatism is expected to rise from 55 million in 2015 up to 67 million people in 2030, which puts the United States to expense of approximately 128 billion Dollars annually (Klippel, Stone, Crofford, & White, 2008). In Europe, about 120 million people are afflicted with a form of rheumatism (Reumanet, 2017) whereas 2.9 million people have a form of rheumatism in the Netherlands (Reumacentrum Twente, 2017). Moreover, one out of three people suffer from rheumatism at some time in their life (Reumanet, 2017). The main characteristic of rheumatism is a severe pain in the musculoskeletal system and stiffness in joints and muscles causing physical dysfunction, particularly in the locomotory system (Müller & Zeidler, 1998). For rheumatic patients, a physical dysfunction in the locomotory system implies suffering of being restricted in performing daily tasks like grocery shopping, washing and climbing stairs, for instance (Schleicher, Shirtcliff, Muller, Loevinger, & Coe ,2005). Besides the physical dysfunction, there are damages caused by rheumatic diseases, too. Damages are characterized by degeneration of joints such as in osteoarthritis or inflammations of bursa or the whole body as it can be the fact in rheumatoid arthritis. Rheumatic diseases are very different, but all of them share pain and physical dysfunction and can thus be categorized in three different groups:

- Inflammatory joint disease
- Degenerative joint disease
- Disorder of soft tissues

The most common forms of rheumatism are rheumatoid arthritis, osteoarthritis, and fibromyalgia. Rheumatoid arthritis is the main form of inflammatory rheumatic diseases. It is distinguished from other forms of rheumatism by a continuous inflammation of the bursa, an inflammation affecting the whole body, and the presence of autoantibodies. Patients with rheumatoid arthritis experience a remaining course of fatigue and pain with an increased physical disability, e.g. stiffness in joints (Treharne, Kitas, Lyons, & Booth, 2005).

According to Reumanet (2017) 800,000 people are sufferers of a form of an inflammatory joint disease in the Netherlands.

Osteoarthritis, which is also called the 'disease of degenerative joints', is characterized by pain which is worsened by shifting of weight and ameliorated with rest (Van Baar, Dekker, Lemmens, Oostendorp, & Bijlsma, 1997). Other factors playing a crucial role in osteoarthritis are morning stiffness, painful sensitivity to palpation, enlargement of bones, clunking on motion and/ or restrictions of joint movement. Due to the instability of joints, patients with osteoarthritis experience muscle weakness resulting from the inability of movement (Van Baar et al., 1997). Inflammation, however, is usually mild which is different to rheumatoid arthritis (Hochberg et al., 1995). In the Netherlands 1.2 million people sustain this form of rheumatism (Reumanet, 2017).

Fibromyalgia, a soft tissue disorder, is characterized by chronic widespread pain, especially musculoskeletal pain and tender points in general (Neumann & Buskila, 2013). Other symptoms often connected with fibromyalgia are sleep disturbances causing fatigue, stiffness and headache (Schleicher et al., 2005). In the Netherlands there are 460,000 people who are currently suffering of fibromyalgia (Reumanet, 2017). What all patients, suffering from one of these forms of rheumatism described above have in common, are pain and physical dysfunction followed by several physical effects which result in a restriction of motion.

Wellbeing

Patients suffering from chronic diseases like rheumatism do not only have to cope with restrictions of motion and other physical strains, but also with the psychological effects of the disease. Chronic diseases have the potential to completely change the patient's life by causing negative effects on the quality of life and wellbeing (De Ridder et al., 2008). Those patients who suffer from inflammatory diseases, however, experience psychological problems and distress more often than the general population; these afflictions include particularly depression and anxiety as well as other negative emotions (Evers, Zautra, & Thieme, 2011). It seems that there is a relation between the pain intensity and anxiety and depression. Due to increased pain caused by rheumatism, the likelihood of anxiety and depression is rising and the sufferer is experiencing less satisfaction (Treharne, Lyons, Booth, & Kitas, 2007). To adapt to a chronic disease, new coping strategies must be learned and applied. These coping strategies may help the patient to function physically and psychologically regardless of the restrictions caused by the chronic disease (De Ridder et al., 2008). However, chronic pain can

contribute to pain inhibiting behaviour which can result in physical disability. This pain inhibiting behaviour is described as having difficulties in specifying emotions, repression of emotions, and being ambivalent about expressing emotions (De Ridder et al., 2008). Therefore, it is important that patients sustaining a form of rheumatism display emotions and distress caused by feeling high levels of pain which seems to be beneficial in coping with the disease. Patients experiencing high levels of pain have a declined self-esteem and are less able to align to the situation without social support (Nagyova, Stewart, Macejova, van Dijk, & van Heuvel, 2005). Moreover, patients with less social support were less satisfied with their lives and, hence, reported more negative emotions (Treharne et al., 2007).

Due to the fact that rheumatism can completely change a person's life causing negative effects, it is crucial to amplify the positive outcomes leading to wellbeing. Wellbeing has been defined differently over the years and was originally described as the absence of illness and psychological dysfunction. However, wellbeing also means to be mentally healthy which involves actualizing personal growth, being able to deal with the normal stress in life, working productively, and making contributions to the community (WHO, 2005). Several dimensions underlying the outcome of wellbeing are contributing to the psychological functioning of the individual. These dimensions are: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1998). Self-acceptance describes an individual as perfectly functioning and accepting its self and past life. Positive relations with others are characterized by a warm-hearted relationship to others. Autonomy means to be capable of evaluating one's actions without waiting for permission from others. According to Ryff (1998), environmental mastery is the ability to select or to make the environment compatible to one's physical conditions, e.g. to be able to enter social interaction regardless of the pain in rheumatism. Individuals with a sense of directedness and who behave intentionally can be assigned to the dimension of purpose in life. Personal growth is characterized by individuals developing their potential and expand as a person (Ryff, 1998).

The outcome of wellbeing has not only several underlying dimensions but is currently also distinguished by three different categories in the current discourse: psychological wellbeing, emotional wellbeing and social wellbeing (Keyes, 2002). Firstly, psychological wellbeing is described as a positive attitude toward oneself about, for instance, one's ability of managing the life and includes the dimensions of Ryff (1998) mentioned above. Secondly, emotional wellbeing reflects in general the perception of satisfaction in one's life, especially the presence or absence of positive feelings, and includes happiness, interest, and life

satisfaction. Thirdly, social wellbeing is a description of people evaluating their function in life within the community in terms of social-contribution, -integration, -actualization, -acceptance, and -coherence (Keyes, 2002). Further, patients who are emotionally, psychologically and socially well are being described as flourishing (Keyes, 2005; Keyes, 2007). This implies that flourishing individuals are interested in life, have a positive attitude towards the self and have feelings of belonging to the society as well as a greater interest to participate in social life. Contrary are languishing individuals, who have feelings of depression in the absence of emotional, social and psychological wellbeing (Keyes, 2005; Keyes, 2007). Research suggests that a state of flourishing in individuals can prevent chronic diseases and also may help people to sustain a state of wellbeing despite the restrictions caused by a chronic disease (Keyes, 2005). Overall, wellbeing is associated with less disability and fatigue in pain patients (Schleicher et al., 2005) and therefore is a great contributor to the quality of life of patients with rheumatism.

Determinants of Wellbeing

Resilience and Positive Emotions

Several factors can contribute to the enhancement of wellbeing including resilience and positive emotions, acceptance of the chronic disease and valued living. Resilience appears to improve an individual's quality of life. The concept of resilience was first defined by developmental psychologists who observed that children were able to accomplish positive developmental outcomes although they had experienced adverse events (Fava & Tomba, 2009). The present definition describes resilience as the individuals' "ability to bounce back or recover from stress" (Smith et al., 2008, p.199). However, there seems to be a reciprocal dependency between resilience and positive emotions, as the individual would not experience resilience in the face of adversity. Positive emotions increase the likelihood in patients to feel better in the future even during times of pain. According to the broaden-and-build theory (Fredrickson, 2001) emotional wellbeing is increased through the upward spiral of positive emotions (Fredrickson & Joiner, 2002). Unlike negative emotions, which minimize the behavioural repertoire, positive emotions can extend the behavioural repertoire, supporting individuals to discover new and positive directions of thought and action which in turn enhance one's resilience (Fredrickson & Joiner, 2002). Therefore, it is important for patients with chronic diseases to avoid negative thinking especially in times of high pain intensity, because higher experienced stress and pessimism is related to greater anxiety, depression and less life satisfaction (Treharne et al., 2007).

The effects of positive emotions are substantial. People who experience positive emotions during times of grief, for instance, seem to develop long-term goals and plans (Fredrickson & Joiner, 2002). Furthermore, positive emotions improve coping with adversity through the new developed extended attention and cognition which in turn predicts the future experience of positive emotions. People build upon this cycle of positive emotions, which enhances their resilience and therefore their emotional wellbeing. The factor of positive emotions has not only a unique effect in reducing negative consequences such as anxiety, stress or depression; it also enhances the ability to recover from strains or adversity and therefore enhances resilience (Smith et al., 2008).

Acceptance

Pain acceptance plays a crucial role in chronic diseases and can lead to a greater sense of personal engagement and wellbeing through the use of an active coping mechanisms. Such an active coping mechanism can be described as to be physically active, to function both physically and psychologically and to socially interact with other people despite the experienced pain (Sturgeon & Zautra, 2010). Acceptance is a part of psychological flexibility which means that the patient has a great repertoire of behaviour patterns adapting to the situation which can in turn enhance the life experiences (Jacobs, Kleen, De Groot, & A-Tjak, 2008). Additionally, acceptance means to fully experience as well as bear the present moment – especially in the absence of avoidance when being confronted with adverse situations (McCracken & Eccleston, 2005). Pain repression, in which the patient tends to control or avoid the painful moment, can lead to a negative spiral when enduring rheumatic pain. Due to feelings of exhaustion this process is ineffective concerning processing painful memories in an inadequate way (Jacobs et al., 2008). According to McCracken and Eccleston (2005), however, it is expected that patients show greater involvement in the reaching of personal aims regardless of experiencing negative moments, when they accept their life including the chronic disease that causes negative effects. In general, acceptance is therefore defined as the disposition to embrace unwanted inner events to pursue one's values and goals (Bond et al., 2011).

Valued Living

Values are not goals in itself but rather patterns of actions which are freely chosen, continuous and dynamic (Trompetter et al., 2013). Unlike acceptance, a patient might still move toward approaching one's values although one has negative experiences (Trompetter et al., 2013). Valued living can therefore be defined as the extent to which an individual

achieves the own chosen values in the daily life (Wilson, Sandoz, Kitchens, & Roberts, 2010). Valued living is related to acceptance, reduces psychological distress, enhances the patient's flexibility and thus, enhances the quality of life. In addition, valued living and acceptance decrease depression, experiences of pain-related anxiety and consequentially, patients scoring high on valued living tend to need lesser healthcare. Moreover, rheumatic patients, who accept the chronic disease and approach the accomplishment of personal values, show significant improvements in physical performance (Vowles & McCracken, 2008). Hence, patients suffering from rheumatism have to learn to experience more positive emotions even in painful situations and, as a consequence to be more resilient, to accept the chronic disease, to move toward approaching their values and finally, to achieve a positive impact on the quality of life.

The present study

The aim of the study was to investigate the relation between wellbeing and resilience, positive emotions, acceptance and valued living among patients with rheumatism. It was expected that there is a positive relation between wellbeing and resilience, positive emotions, acceptance and valued living among patients with rheumatism. Furthermore, the prediction of a flourishing patient based on resilience, positive emotions, acceptance and valued living was examined. It was expected that resilience, positive emotions, acceptance and valued living can predict whether a person is flourishing or not flourishing.

Methods

Design

In this study the data of a previous study's questionnaire survey was used. The respondents were members of the patient forum of rheumatism research, partners of the 'Reumacentrum Twente'. These were recruited in order to participate in the study in 2015. The respective respondents were sufferers of a form of rheumatism (table 1) and possessed sufficient language knowledge to fill in the questionnaire. In this study the dependent variable was wellbeing and the independent variables were resilience, positive emotions, acceptance and valued living.

Participants

One hundred and fifty-four patients gave permission to take part in the questionnaire survey and were invited to fill in the questionnaire by e-mail or postal letter. One hundred

and thirty-four patients were asked to participate via e-mail, however 18 e-mail addresses were inactive. The 38 participants who had either no e-mail address reported (n = 20) or whose e-mail address was inactive (n = 18) were approached by postal letter. Three letters of these approached participants returned undeliverable. Thus, in total 151 members of the forum were invited for participation, of whom 69 respondents filled in the questionnaire, which led to a response rate of 46 percent. Of the 69 respondents participating in the study 47 were women and 22 were men (Table 1).

Table 1

Population characteristics (N = 69)

Population Characteristics	n	%	Mean *(SD)*
Gender			
Men	22	31.9	
Women	47	68.1	
Age (years)			59.7 (*11.7*)
Form of rheumatism			
Rheumatoid Arthritis	50	72.5	
Osteoarthritis	15	21.7	
Fibromyalgia	6	8.7	
Psoriatic Arthritis	5	7.2	
Gout	4	5.8	
Lower Backpain	10	14.5	
Other affections	10	14.3	
Disease duration (years)			16.4 (*11.6*)

Note. Form of rheumatism is N > 69, because patients could state more than one disease.

Materials

The questionnaire consisted of 118 questions (see Appendix I), in which seven items asked for the respondents' demographic information. The respondents answered these questions about gender, age, form of rheumatism, year of diagnosis of the disease, marital status, highest education, and work situation. The remaining questionnaire consisted of five different questionnaires, namely the Mental Health Continuum-Short Form (MHC-SF), the

Brief Resilience Scale (BRS), the Positive and Negative Affect Schedule (PANAS), the Acceptance and Action Questionnaire II (AAQ II), and the Engaged Living Scale (ELS).

Mental Health Continuum-Short Form (MHC-SF)

Wellbeing was measured with the MHC-SF (Keyes et al., 2008) consisting of 14 items which were answered with a 6-point Likert scale ranging from 1 to 6 (on a scale from 1 to 6 the number 1 means 'never' and 6 means 'every day'). On the basis of three subscales, the three dimensions of wellbeing over the past month were measured. These subscales are: 'emotional wellbeing' (e.g. how often the respondent felt happy in the last month), which was measured with three items, 'psychological wellbeing' (e.g. how often the respondent liked most parts of one's personality in the past month), which was measured with six items and 'social wellbeing' (e.g. how often the respondent felt that he/she contributed something important to society), which was measured with five items. The internal consistency measured by Cronbach's alfa amount to .76 for the scale 'emotional wellbeing', .83 for the scale 'psychological wellbeing' and .85 for the scale 'social wellbeing'. The internal consistency for the whole scale was .91. In research of Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes (2010), the internal consistency for the whole MHC-SF was .89 and was considered as highly reliable. Contemplating the subscales from the MHC-SF it is brought to light that emotional wellbeing ($\alpha = .83$) and psychological wellbeing ($\alpha = .83$) were highly reliable with social wellbeing ($\alpha = .74$) being adequately reliable. For each scale an average score was calculated to compare how the average scores for each scale vary and how large the individual variations for each scale were. The average score for each scale was calculated by summing up the scores of items in each scale and to divide the result by the number of items in that scale, ultimately.

The Brief Resilience Scale (BRS)

The BRS (Smith et al., 2008) assessed resilience defined as the ability to recover from adverse events and was composed of six items with a 5-point Likert scale ranging from 1 to 5 (on a scale from 1 to 5 the number 1 means 'strongly disagree' and the number 5 means 'strongly agree'). One example of an item in the BRS was: 'I tend to bounce back quickly after hard times.' Cronbach's alpha for this scale was .77. According to the study of Smith et al. (2008) the internal consistency for the BRS was between .80–.91 and was therefore reliable. For the BRS an average score was calculated, too. The scores of the items in the BRS were summed up and divided by the number of items in the BRS.

The Positive and Negative Affect Schedule (PANAS)

To determine the positive affect in people's lives the PANAS (Watson, Clark, & Tellegen, 1988) was used. The subscale 'positive affect' was compiled of 10 items (e.g. to what extend the respondent felt interested) measured with a 5-point Likert scale ranging from 1 to 5 (on the scale means 1 'not at all' and 5 'to a large extent'). Cronbach's alpha for the scale of positive affect was .92. According to Crawford and Henry (2004) the internal consistency of the scale positive affect was .89 which was highly reliable. For the PANAS a sum score was calculated. For calculating the sum score, the scores of the items in the subscale 'positive affect' were summed up.

The Acceptance and Action Questionnaire II (AAQ II)

The AAQ II (Jacobs et al., 2008) measured the acceptance of oneself as a person and consisted of 10 items (e.g. it is ok when I remember unpleasant things) ranging on a 6 point Likert scale from 1 to 6 (on the scale 1 means 'never true' and 6 means 'almost always true'). The internal consistency in this study for the AAQ II was .90. In comparison, the Cronbach's alpha in the research from Jacobs et al. (2008) was highly reliable (.89). For the comparison of individual scores in the AAQ II, a sum score was calculated. The sum score was calculated by summing up the scores of the items of the AAQ II.

The Engaged Living Scale (ELS)

Valued living was measured with the ELS (Trompetter et al., 2013) which consisted of 16 items that were answered with a 5-point Likert scale from 1 to 5 (on a scale the number 1 means 'strongly disagree' and the number 5 means 'strongly agree'). On a basis of two subscales the values an individual has in life were measured. The two subscales were 'valued living' (e.g. I have values that give my life more meaning), which was measured by 10 items and 'life fulfillment' (measured by 6 items), whereby the subscale of 'life fulfillment' was not involved in this study. In this study Cronbach's alpha was .89. In the study of Trompetter et al. (2013) the ELS showed a good internal consistency ranging from .86 of the scale 'valued living' to .89 of the total scale. The ELS made use of the sum score, too. The sum score for the ELS was calculated by summing up the scores of the items of the scale 'valued living'.

Procedure

The members of the forum of 'Reumacentrum Twente' were invited via E-mail or postal letter to participate in this questionnaire survey about wellbeing based on positive emotions,

resilience, acceptance, and valued living. Participants had the possibility to fill in the questionnaire either online or on paper. The participants who preferred to fill in the questionnaire online obtained an E-mail with a link leading to the website on which the questionnaire was displayed. Before they filled in the questionnaire on the website they were provided with an extensive explanation about the study. After having received the information about the survey, the participants could continue by proceeding to the next page, which served as informed consent. Participants, who filled in the questionnaire on paper, acquired the same information as the participants participating online. The letter contained general information on the study, an informed consent formula and the questionnaire on paper. The signed informed consent and the filled in questionnaire could be sent back with a return envelope to the University of Twente.

Analysis

To measure the relation between wellbeing and resilience, positive emotions, acceptance and valued living, four analyses were applied. The first analysis was the Shapiro Wilk to test the normal distribution of the variables wellbeing, resilience, positive emotions, acceptance and valued living. Subsequently the Spearman correlation was applied to see if there are significant relations between the variables wellbeing, resilience, positive emotions, acceptance and valued living. Values of the Spearman correlation lower than 0.30 are considered as low, from 0.30 to 0.50 as moderate and above 0.50 as high. Before the multiple linear regression could be conducted, multicollinearity tests were performed to exclude independent variables being too strongly related to each other. To examine multicollinearity, variance proportions in a multiple linear regression analysis were analysed. Eigenvalues above .30 on more than one dimension indicated a multicollinearity. After that a multiple linear regression analysis was executed to investigate the multivariate relations between overall wellbeing and resilience, positive emotions, acceptance and valued living. To analyse if the prediction of wellbeing by positive emotions, acceptance, valued living and resilience differ within the subscales of wellbeing, further multiple linear regression analyses were conducted between emotional, psychological and social wellbeing and the independent variables.

In order to analyse if it can be predicted that a patient is flourishing or not flourishing on basis of resilience, positive emotions, acceptance and valued living, three analyses were applied, which were: a Mann-Whitney U test, a multicollinearity test, and a logistic regression analysis. Before the first analysis could be conducted, patients with rheumatism were divided in flourishing and not flourishing patients. Flourishing patients were

participants who scored four or five points on the 6-point Likert scales for emotional, psychological and social wellbeing. Participants who scored less than four points were grouped as not flourishing patients. After that, the first analysis was the Mann-Whitney U test to measure if positive emotions, acceptance, valued living and resilience could distinguish between flourishing and not flourishing patients. A multicollinearity test was applied to exclude variables which correlated with other variables in the study. Again, to examine multicollinearity, variance proportions in a multiple linear regression analysis were analysed. Eigenvalues above .30 on more than one dimension indicated a multicollinearity. Finally, a logistic regression analysis was used to investigate if resilience, positive emotions, acceptance and valued living could predict flourishing patients. The program SPSS 22.0 was used to execute all analyses described above. In all conducted analyses the significance level was set at .05, whereby values smaller than .05 applied as significant.

Results

Before the Spearman Correlation test was conducted the variables of wellbeing and positive emotions, acceptance, valued living and resilience were tested on normality with the Shapiro Wilk test. To measure the variable ‘wellbeing’ the MHC-SF was used which consisted of three subscales. Out of these subscales, the scales ‘emotional wellbeing’ $W(68) = 0.90$, $p < .05$ and ‘social wellbeing’ $W(68) = 0.94$, $p < .05$ were not normally distributed. The scales ‘psychological wellbeing’ $W(68) = 0.98$, $p > .05$ and the total score of wellbeing $W(68) = 0.97$, $p > .05$ were normally distributed. The independent variables ‘positive emotions’ $W(68) = 0.93$, $p < .05$ and ‘valued living’ $W(68) = 0.96$, $p < .05$ were not normally distributed. ‘Acceptance’ $W(68) = 0.97$, $p > .05$ and ‘resilience’ $W(68) = 0.99$, $p > .05$ as further independent variables were normally distributed. Because some of the scales were not normally distributed, the second test conducted was the Spearman correlation to analyse if there is a relation between wellbeing and resilience, positive emotions, acceptance and valued living among patients with rheumatism. Means, standard deviations, and correlations were presented in table 2. Ensuing from the three subscales of wellbeing, respondents score highest on the subscale ‘emotional wellbeing’ 3.72 (*SD* = 0.82) and lowest on ‘psychological wellbeing’ 2.97 (*SD* = 1.00).

Table 2.

Mean Scores (SD) and Spearman Correlations among study variables (N = 69)

	Mean *(SD)*	1.	2.	3.	4.	5.	6.	7.	8.
1. Positive Emotions	34.93 (*7.00*)	1							
2. Acceptance	44.71 (*10.47*)	.54**	1						
3. Valued Living	38.35 (*5.45*)	.56**	.46**	1					
4. Resilience	3.39 (*0.69*)	.40**	.61**	.30*	1				
5. emotional Wellbeing	3.72 (*0.82*)	.66**	.38**	.44**	31**	1			
6. psychological Wellbeing	2.97 (*1.00*)	.47**	.23	.43**	.16	.66**	1		
7. social Wellbeing	3.51 (*1.03*)	.48**	.46**	.48**	.37**	76**	.63**	1	
8. overall Wellbeing	3.32 (*0.87*)	.57**	.39**	.51**	.29*	84**	.91**	.87**	1

Note. ** p < .01 level (2-tailed); * p < .05 level (2-tailed)

There are generally moderate or high correlations between the independent variables positive emotions, acceptance, valued living and resilience and the dependent variable wellbeing presented in table 2. The highest correlation between wellbeing and the independent variables existed between 'overall wellbeing' and 'positive emotions' ($r_s = .57$, $p < .01$) and 'overall wellbeing' and 'valued living' ($r_s = .51$, $p < .01$). Considering the relations between the subscales of wellbeing and the independent variables, the relation between 'emotional wellbeing' and 'positive emotions' was the highest ($r_s = .66$, $p < .01$). No significant relation, however, exists between psychological wellbeing and acceptance ($r_s = .23$, $p > .05$) as well as between psychological wellbeing and resilience ($r_s = .16$, $p > .05$).

Before the third test of a multiple linear regression could be conducted, a multicollinearity test of a regression analysis was applied. The variance proportions were analysed to exclude independent variables with a high dependency to each other. Due to the multicollinearity test, the variable 'resilience' was excluded for further analyses, because of high eigenvalues on two dimensions .33 and .42. The same eigenvalues were found in all performed multicollinearity tests of 'overall wellbeing', 'emotional wellbeing',

‘psychological wellbeing’ as well as ‘social wellbeing’ and the independent variables. After removing the variable ‘resilience’, the variables ‘positive emotions’, ‘valued living’ and ‘acceptance’ appeared not to be highly dependent to each other. Thus, the multiple linear regression could be conducted to predict ‘overall wellbeing’ based on ‘positive emotions’, ‘valued living’ and ‘acceptance’. As presented in Table 3, a significant regression model was found ($F(3, 64) = 17.08$, $p < .001$), with an explanation of the total model of 45 % of the variance of wellbeing ($R^2 = .45$). Both ‘positive emotions’ and ‘valued living’ were significant predictors of wellbeing, whereas ‘positive emotions’ was the strongest predictor.

Table 3.

Summary of the Multiple Linear Regression Analysis for Variables Predicting Wellbeing

	B	SE	β	p value
Constant	-0.29	0.59	-	.63
Variables				
Positive Emotions	0.07	0.02	0.53	.00
Valued Living	0.04	0.02	0.24	.04
Acceptance	-0.00	0.01	-0.05	.67

Note. $F = 17.08$, $p < .05$; $R^2 = .45$

In the other multiple linear regression analyses, in which ‘emotional wellbeing’, ‘psychological wellbeing’, as well as ‘social wellbeing’ were predicted based on ‘positive emotions’, ‘valued living’ and ‘acceptance’, the variable ‘positive emotions’ was the strongest predictor as well (see Appendix II). In predicting ‘psychological wellbeing’ and ‘social wellbeing’, ‘valued living’ was, besides ‘positive emotions’, another significant predictor. The independent variable ‘acceptance’ was not a significant predictor of all dimension of wellbeing. However, the variables ‘positive emotions’, ‘valued living’ and ‘acceptance’ explained the most of the variance in the model predicting ‘emotional wellbeing’ with 53 % ($F(3,64) = 24.15$, $p < .001$, $R^2 = .53$).

Before the fourth analysis was conducted, participants were classified in flourishing as well as not flourishing and a Mann-Whitney U test was applied to compare differences in ‘positive emotions’, ‘resilience’, ‘acceptance’, and ‘valued living’ between flourishing and not flourishing patients. According to the classification, 39 patients were aligned as flourishing patients and 25 patients were aligned as not flourishing patients. Mean Ranks and

Medians of the independent variables in the Mann-Whitney U test for flourishing and not flourishing patients are presented in table 4. The Mann-Whitney U test indicated that 'positive emotions' (U = 275.50, p = .00), 'valued living' (U = 303.50, p = .02) and 'resilience' (U = 318.50, p = .02) were significantly greater for flourishing patients than for not flourishing patients. Only 'acceptance' (U = 362.50, p = .09) was not significantly greater for flourishing patients than for not flourishing patients. Therefore, acceptance was excluded for further analysis.

Table 4.

Medians and interquartile ranges (IQR) of the independent variables for flourishing and not flourishing patients in a Mann-Whitney U test (N = 64)

	Median (*IQR*)	
	Flourishing	Not Flourishing
Positive emotions	38.0 (*40.0 - 35.0*)	34.0 (*38.0 - 30.0*)
Acceptance	47.5 (*54.3 - 40.0*)	42.0 (*52.5 - 34.5*)
Valued living	40.0 (*43.0 - 37.0*)	38.0 (*40.0 - 32.5*)
Resilience	3.5 (*4.0 - 3.2*)	3.2 (*3.6 - 2.7*)

After that, multicollinearity was tested investigating variance proportions of a multiple linear regression analysis for the variables 'positive emotions', 'valued living' and 'resilience'. The multicollinearity test indicated that there is multicollinearity between 'positive emotions' and 'resilience' as well as 'valued living' because of higher eigenvalues in three dimensions (.24, .57, .19). According to the Mann-Whitney U test, both 'positive emotions' and 'valued living' were significantly greater predictors in distinguishing between flourishing and not flourishing patients. Therefore, 'resilience' was excluded for further analysis. The fourth test conducted was the logistic regression analysis to investigate if the prediction of flourishing or not flourishing patients can be based on 'positive emotions' and 'valued living' (Table 5).

Table 5.

Summary of a Logistic Regression analysis for variables predicting flourishing and not flourishing patients

	Flourishing / Not Flourishing			
	B	SE B	Exp(B)	p-value
Constant	-6.21	2.49	0.00	.01
Variables				
Positive emotions	0.10	0.05	1.10	.06
Valued living	0.08	0.07	1.09	.23

Note. Exp(B) = exponentiated B; Nagelkerke R^2 = .22; χ^2 = 11.24 (1,2), p < .05

A test of the full model against a constant only model was statistically significant, indicating that 'positive emotions' and 'valued living' as a set reliably distinguished between flourishing and not flourishing patients (chi square = 11.24, p < .05 with df = 2). Nagelkerke's R^2 of .22 indicated a low relationship between prediction and grouping. Prediction success was overall 60.3 % (25 % for not flourishing and 38 % for flourishing) The Wald criterion demonstrated that both 'positive emotions' and 'valued living' did not make a significant contribution to the prediction (p > .05). A positive tendency was seen towards predicting flourishing patients based on positive emotions.

Discussion

The study confirmed that positive emotions, valued living, acceptance and resilience are relating to overall wellbeing, in general. Therefore, a patient suffering from rheumatism and scoring high on positive emotions, acceptance, resilience and valued living scores higher on wellbeing as well. Although all independent variables were related to overall wellbeing, the highest relations were found with positive emotions and valued living. One reason for that might be that patients experiencing more positive emotions and approaching their values are more satisfied with their life. This was confirmed by a multiple linear regression analysis. Another finding in this study was, that a patient's acceptance of rheumatism or resilience is not related to one's personal growth or autonomy (psychological wellbeing). Apparently, a rheumatic patient, who is resilient and accepts the disease does not automatically possess autonomy or seems to personally grow. Comparing all independent variables in this study, 'positive emotions' was the strongest predictor for emotional, psychological and social

wellbeing. Approaching one's own values (valued living) was important in predicting the patient's positive attitude toward the self (psychological wellbeing) as well as predicting a patient's social contribution to the community (social wellbeing). Acceptance of rheumatism and bouncing back from adverse events made no contribution in predicting wellbeing. Furthermore, this study showed that positive emotions, valued living and resilience can univariately distinguish between flourishing and not flourishing patients. Although positive emotions and valued living as a set could distinguish between flourishing and not flourishing patients, both did not contribute to the prediction individually. However, a positive tendency was seen predicting flourishing patients based on positive emotions. Therefore, flourishing patients described as interested in life, having a positive attitude toward the self and feelings of belonging to the society seem to reach their values and seem to have more positive emotions than not flourishing patients. However, both variables seem to be highly interrelated which is why no judgement can be made on which variable seems to be more appropriate in predicting flourishing or not flourishing patients.

Research of Frederickson and Joiner (2002) also confirms what is found in this particular study. Positive emotions lead to patients developing long term goals (Frederickson & Joiner, 2002), which is in line with the outcomes documented in this study. Positive emotions and valued living are both significant predictors of wellbeing. The experience of more positive emotions in patients with rheumatism significantly relate to a greater willingness in approaching the own values regardless of the restrictions. According to Frederickson and Joiner (2002) positive emotions do not only relate to valued living but also seem to have an effect on coping. Coping in turn relates to positive emotions in the sense that positive consequences of behaviour lead to more positive emotions. The positive experience gained from that behaviour strengthens the individual and might enhance the own resilience indirectly. Moreover, the combination of positive emotions, coping and resilience is leading to an upward spiral, which leads to emotional wellbeing (Frederickson & Joiner, 2002). According to Sturgeon and Zautra (2010), patients reporting more positive emotions can uphold these in adverse events and are more likely able to accept the chronic disease with all the restrictions and pain that come along. This aspect is confirmed by this study, too. According to the study at hand patients with more positive emotions were more likely to accept the chronic disease. Individuals who are pressure resistant, independent, open for new experiences, have goals in life and who are continuing in personal development, experience psychological wellbeing which prevents anxiety and depression (Fava & Tomba, 2009). Therefore, it could be expected that resilience also relates to psychological wellbeing since a

patient with rheumatism has to tolerate the pain and to try to continue with his or her own development. However, in this study psychological wellbeing is not significantly related to resilience. According to research from Luthar, Cicchetti and Becker (2000), resilience might be more a dynamic process. Resilience seems to be a factor that also contributes to other factors, such as positive emotions. Positive emotions enhance the think-action repertoire which again enhances the personal resources and therefore resilience (Frederickson & Joiner, 2002). Hence, resilience and positive emotions have a reciprocal dependency. Another aspect is, that resilience relates to acceptance as acceptance seems to be a resource of resilience (Sturgeon & Zautra, 2010), which is also confirmed in this study. A rheumatic patient accepting the pain is more focused on external stressors, for instance relationships to other people, which can be changed instead of worrying about the pain itself which is unchangeable. This useful coping strategy leads to patients bouncing back more easily in painful episodes (Sturgeon & Zautra, 2010). Additionally, patients are able to physically and psychosocially adjust to the chronic pain more easily while accepting rheumatic disease (Kratz, Davis, & Zautra, 2007). However, acceptance does not only relate to resilience but also to valued living. The patient's acceptance of the disease leads to a greater efficacy in achieving and engaging to reach the own goals (Kratz, Davis, & Zautra, 2007). Moreover, acceptance has been found as a contributor for wellbeing due to less experienced psychological distress. It is likely that acceptance through psychological flexibility in adjusting to adverse events leads to a patient who is more satisfied with his/her life, has a positive attitude toward the self and who is socially contributing to the community.

The study of the prediction of wellbeing by resilience, positive emotions, acceptance and valued living among patients with rheumatism has strengths as well as weaknesses. The study made use of five different tests (MHC-SF, BRS, PANAS, AAQ II, ELS). All questionnaires used in this study apply as highly reliable as well as valid and, hence, represent a reliable measuring instrument in this study. However, the cross-sectional study cannot make judgments about cause and effect of the study variables on wellbeing and on flourishing or not flourishing patients. Additionally, patients were preselected because of their affiliation to the forum of rheumatism research and further this study had a low response rate. Consequently, the respondents having participated in this study do not seem to be representative for the general population of rheumatic patients.

To improve the finding of factors contributing to wellbeing in rheumatic patients, it is necessary to conduct future research. Other factors, which might also contribute to wellbeing and which were not analysed in this study are social support, personality traits, and coping.

For instance, social support helps patients experiencing high levels of pain to increase their self-esteem and their ability to align to the most diverse situations (Nagyova, Stewart, Macejova, van Dijk, & van Heuvel, 2005). Optimism as a characteristic of extraversion is related to a declined experience of pain and depressive symptoms in patients with rheumatism (Sturgeon & Zautra, 2010). Since acceptance of the chronic disease is a coping mechanism, acceptance through coping leads to less experienced stress and anxiety, because acceptance directs to psychological flexibility (Jacobs, Kleen, De Groot, & A-Tjak, 2008). According to the research described earlier, many factors might lead to wellbeing. It is therefore recommended to conduct interviews first to find the factors which are the most important for rheumatic patients. After that a questionnaire survey can be implemented to find relations between the variables. It is further advised to conduct regression analyses considering a mediating effect instead of focusing on correlational analyses only. By conducting regression analyses focusing on a mediation the factors, which have an indirect or direct influence on wellbeing, can be found. Hence, more information about factors contributing directly or indirectly to wellbeing can be assembled. This information can help future researchers to create and implement interventions for rheumatic patients supporting them to achieve a state of wellbeing in spite of the symptoms related to the disease.

Conclusion

This study confirms the results of previous studies in revealing that positive emotions and valued living are important predictors for wellbeing in rheumatic patients. It appears that a patient with rheumatism, who achieves an overall state of wellbeing, experiences more positive emotions and has a greater willingness to achieve own values in adverse events. These insights can help medical service to not only focus on reducing the physical symptoms, but also on supporting the patient in reducing the psychological symptoms of rheumatism. However, additional factors and the determination of their direct or indirect effect on wellbeing have to be taken into account to be able to construct a form of intervention promoting wellbeing in patients with rheumatic diseases.

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Appendix I: Questionnaire

VRAGENLIJST

VEERKRACHT, ACCEPTATIE EN WELZIJN BIJ REUMAPATIËNTEN

VAKGROEP PSYCHOLOGIE, GEZONDHEID EN TECHNOLOGIE

Oktober 2015

Contactpersoon:
Maaike Leenman
e-mail: m.p.leenman@student.utwente.nl
Tel: 06-81408151

Beantwoord de volgende vragen door een ☒ in het hokje te plaatsen, dat het meest overeenkomt met uw antwoord.

Hier volgen eerst algemene vragen over uzelf:

Wat is uw geslacht? ☐ Man ☐ Vrouw

Wat is uw leeftijd: ____

Welke vorm(en) van reuma heeft u?

☐ reumatoïde artritis
☐ artrose
☐ S.L.E.
☐ fibromyalgie
☐ sclerodermie (systematische sclerose)
☐ artritis psoriatica
☐ syndroom van Reiter
☐ jicht
☐ lage rugpijn
☐ tendinitis / bursitis
☐ osteoporose
☐ ziekte van Bechterew
☐ weet ik niet
☐ anders, nl: _____

Sinds wanneer heeft u last van uw reumatische aandoening? (Wilt u globaal het jaar invullen)

_____

Wat is uw burgerlijke staat?

☐ ongehuwd / niet samenwonend

☐ ongehuwd / samenwonend

☐ gehuwd

☐ weduwe / weduwnaar

☐ gescheiden

Wat is uw hoogst genoten opleiding?

☐ Geen opleiding

☐ Basisonderwijs (lager onderwijs)

☐ Lager beroepsonderwijs (LBO, huishoudschool, LEAO, LTS, etc.)

☐ MAVO, (M)ULO, 3-jarige HBS, VMBO

☐ Middelbaar beroepsonderwijs (bijv. MTS, MEAO)

☐ 5-jarige HBS, HAVO, MMS, atheneum, gymnasium

☐ Hoger beroepsonderwijs (bijv. HTS, HEAO)

☐ Wetenschappelijk onderwijs (universiteit)

Wat is de beste omschrijving van uw huidige arbeidssituatie? (Wilt u één antwoord geven)

☐ betaald werk, meer dan 20 uur per week

☐ betaald werk, 20 uur of minder per week

☐ onbetaald werk/ vrijwilligerswerk

☐ huishouden

☐ school of studie

☐ arbeidsongeschikt (WAO/WIA)

☐ gepensioneerd (AOW, VUT)

☐ werkloos

De volgende vragen beschrijven gevoelens die mensen kunnen hebben. Lees iedere uitspraak zorgvuldig door en vink het antwoord aan dat het best weergeeft hoe vaak u dat gevoel had gedurende de afgelopen maand.

In de afgelopen maand, hoe vaak had u het gevoel...

	Nooit	Eén of twee keer	Ongeveer 1 keer per week	2 of 3 keer per week	Bijna elke dag	Elke dag
...dat u gelukkig was?	☐	☐	☐	☐	☐	☐
... dat u geïnteresseerd was in het leven?	☐	☐	☐	☐	☐	☐
...dat u tevreden was?	☐	☐	☐	☐	☐	☐
...dat u iets belangrijks hebt bijgedragen aan de samenleving?	☐	☐	☐	☐	☐	☐
...dat u deel uitmaakte van een gemeenschap (zoals een sociale groep, uw buurt, uw stad)?	☐	☐	☐	☐	☐	☐
...dat onze samenleving beter wordt voor mensen?	☐	☐	☐	☐	☐	☐
...dat mensen in principe goed zijn?	☐	☐	☐	☐	☐	☐
...dat u begrijpt hoe onze maatschappij werkt?	☐	☐	☐	☐	☐	☐
...dat u de meeste aspecten van uw persoonlijkheid graag mocht?	☐	☐	☐	☐	☐	☐
...dat u goed kon omgaan met uw	☐	☐	☐	☐	☐	☐

alledaagse verantwoordelijkheden?

In de afgelopen maand, hoe vaak had u het gevoel...

	Nooit	Eén of twee keer	Ongeveer 1 keer per week	2 of 3 keer per week	Bijna elke dag	Elke dag
...dat u warme en vertrouwde relaties met anderen had?	☐	☐	☐	☐	☐	☐
...dat u werd uitgedaagd om te groeien of een beter mens te worden?	☐	☐	☐	☐	☐	☐
...dat u zelfverzekerd uw eigen ideeën en meningen gedacht en geuit hebt?	☐	☐	☐	☐	☐	☐
...dat uw leven een richting of zin heeft?	☐	☐	☐	☐	☐	☐

Geef aan in welke mate u het eens bent met elk van de onderstaande stellingen:

	Helemaal niet mee eens	Niet mee eens	Neutraal	Mee eens	Helemaal mee eens
Ik heb de neiging om snel terug te veren na moeilijke tijden.	☐	☐	☐	☐	☐
Ik vind het moeilijk om stressvolle gebeurtenissen te doorstaan.	☐	☐	☐	☐	☐

Ik heb niet veel tijd nodig om van een stressvolle gebeurtenis te herstellen.	☐	☐	☐	☐	☐
Het is moeilijk voor mij om verder te gaan als er iets vervelends gebeurt.	☐	☐	☐	☐	☐
Ik heb meestal weinig moeite om door moeilijke tijden heen te komen.	☐	☐	☐	☐	☐
Ik heb de neiging veel tijd te nemen om over tegenslagen in mijn leven heen te komen.	☐	☐	☐	☐	☐

Wat past bij u? Geef aan in welke mate u het eens bent met de volgende stellingen:

	Helemaal oneens	Gedeeltelijke oneens	Gedeeltelijke eens	Helemaal eens
Als ik plannen maak voer ik ze uit.	☐	☐	☐	☐
Ik red het op de een of andere manier wel.	☐	☐	☐	☐
Ik kan meer op mezelf rekenen, dan ik verwacht dat anderen op zichzelf kunnen rekenen.	☐	☐	☐	☐

Wat past bij u? Geef aan in welke mate u het eens bent met de volgende stellingen:

	Helemaal oneens	Gedeeltelijke oneens	Gedeeltelijke eens	Helemaal eens
Geïnteresseerd blijven in dingen is belangrijk voor mij.	☐	☐	☐	☐

Ik kan op mezelf zijn als dat nodig is.	☐	☐	☐	☐
Ik ben trots op de dingen die ik heb bereikt in mijn leven.	☐	☐	☐	☐
Ik kan omgaan met onverwachte problemen.	☐	☐	☐	☐
Ik ben tevreden met mijzelf.	☐	☐	☐	☐
Ik heb het gevoel dat ik veel dingen tegelijkertijd aankan.	☐	☐	☐	☐
Ik ben vastberaden.	☐	☐	☐	☐
Ik twijfel aan de zin van het leven.	☐	☐	☐	☐
Ik pak problemen aan zoals ze zich voordoen.	☐	☐	☐	☐
Ik sla mij door moeilijke momenten heen omdat ik al eerder moeilijke momenten heb meegemaakt.	☐	☐	☐	☐
Ik heb zelfdiscipline.	☐	☐	☐	☐
Ik blijf geïnteresseerd in dingen.	☐	☐	☐	☐
Ik vind zelfs in moeilijke tijden wel iets om over te lachen.	☐	☐	☐	☐

Wat past bij u? Geef aan in welke mate u het eens bent met de volgende stellingen:

	Helemaal oneens	Gedeeltelijke oneens	Gedeeltelijke eens	Helemaal eens
Mijn geloof in mezelf helpt me door moeilijke momenten.	☐	☐	☐	☐

In een noodgeval ben ik iemand waar mensen op kunnen rekenen.	☐	☐	☐	☐
Ik bekijk een situatie op verschillende manieren.	☐	☐	☐	☐
Ik kan mezelf dwingen dingen te doen, zelfs als ik daar geen zin in heb.	☐	☐	☐	☐
Mijn leven heeft zin.	☐	☐	☐	☐
Ik blijf niet stilstaan bij dingen waar ik niets aan kan doen.	☐	☐	☐	☐
In een moeilijke situatie vind ik altijd een uitweg.	☐	☐	☐	☐
Ik heb genoeg energie om te doen wat ik moet doen.	☐	☐	☐	☐

Deze vragenlijst gaat over uw standpunten t.a.v. uw gezondheid. Met behulp van deze gegevens kan worden bijgehouden hoe u zicht voelt en hoe goed u in staat bent uw gebruikelijke bezigheden uit te voeren.

1) Hoe zou u over het algemeen uw gezondheid noemen?

Uitstekend	Zeer goed	Goed	Matig	Slecht
☐	☐	☐	☐	☐

2) Hoe beoordeelt u nu uw gezondheid over het algemeen, vergeleken met een jaar geleden?

Veel beter nu dan een jaar geleden	Wat beter nu dan een jaar geleden	Ongeveer hetzelfde nu als een jaar geleden	Wat slechter nu dan een jaar geleden	Veel slechter nu dan een jaar geleden
☐	☐	☐	☐	☐

3) De volgende vragen gaan over bezigheden die u misschien doet op een doorsnee dag. Wordt u door uw gezondheid op dit moment beperkt bij deze bezigheden? Zo ja, in welke mate?

	Ja, ernstig beperkt	Ja, een beetje beperkt	Nee, helemaal niet beperkt
Forse inspanning, zoals hardlopen, tillen van zware voorwerpen, een veeleisende sport beoefenen	☐	☐	☐
Matige inspanning, zoals een tafel verplaatsen, stofzuigen, zwemmen of fietsen	☐	☐	☐
Boodschappen tillen of dragen	☐	☐	☐
Een paar trappen oplopen	☐	☐	☐
Eén trap oplopen	☐	☐	☐
Bukken, knielen of hurken	☐	☐	☐
Meer dan een kilometer lopen	☐	☐	☐
Een paar honderd meter lopen	☐	☐	☐
Ongeveer honderd meter lopen	☐	☐	☐
Uzelf wassen of aankleden	☐	☐	☐

4) Hoe vaak hebt u in de afgelopen 4 weken, een van de volgende problemen bij uw werk of andere dagelijkse bezigheden gehad, ten gevolge van uw lichamelijke gezondheid?

	Altijd	Meestal	Soms	Zelden	Nooit
U besteedde minder tijd aan werk of andere bezigheden	☐	☐	☐	☐	☐
U heeft minder bereikt dan u zou willen	☐	☐	☐	☐	☐
U was beperkt in het soort werk of andere bezigheden	☐	☐	☐	☐	☐
U had moeite om uw werk of andere bezigheden uit te voeren (het kostte u bv. extra inspanning)	☐	☐	☐	☐	☐

5) Hoe vaak hebt u in de afgelopen 4 weken, een van de volgende problemen ondervonden bij uw werk of andere dagelijkse bezigheden ten gevolge van emotionele problemen (zoals depressieve of angstige gevoelens)?

	Altijd	Meestal	Soms	Zelden	Nooit
U besteedde minder tijd aan werk of andere bezigheden	☐	☐	☐	☐	☐
U heeft minder bereikt dan u zou willen	☐	☐	☐	☐	☐
U deed uw werk of andere bezigheden niet zo zorgvuldig als gewoonlijk	☐	☐	☐	☐	☐

6) In hoeverre hebben uw lichamelijke gezondheid of emotionele problemen u gedurende de afgelopen 4 weken gehinderd in uw normale omgang met familie, vrienden of buren, of bij activiteiten in groepsverband?

Helemaal niet	Enigszins	Nogal	Veel	Heel erg veel
☐	☐	☐	☐	☐

7) Hoeveel lichamelijke pijn heeft u de afgelopen 4 weken gehad?

Geen	Heel licht	Licht	Nogal	Ernstig	Heel ernstig
☐	☐	☐	☐	☐	☐

8) In welke mate bent u de afgelopen 4 weken door pijn gehinderd in uw normale werk (zowel werk buitenshuis als huishoudelijk werk)?

Helemaal niet	Een klein beetje	Nogal	Veel	Heel erg veel
☐	☐	☐	☐	☐

9) Deze vragen gaan over hoe u zich voelt en hoe het met u ging in de afgelopen 4 weken. Wilt u a.u.b. bij elke vraag het antwoord geven dat het best benadert hoe u zich voelde. Hoe vaak gedurende de afgelopen 4 weken...

	Helemaal niet mee eens	Niet mee eens	Neutraal	Mee eens	Helemaal mee eens
Voelde u zich levenslustig?	☐	☐	☐	☐	☐
Was u erg zenuwachtig?	☐	☐	☐	☐	☐
Zat u zo in de put dat niets u kon opvrolijken?	☐	☐	☐	☐	☐
Voelde u zich rustig en tevreden?	☐	☐	☐	☐	☐
Had u veel energie?	☐	☐	☐	☐	☐
Voelde u zich somber en neerslachtig?	☐	☐	☐	☐	☐
Voelde u zich uitgeput?	☐	☐	☐	☐	☐

Voelde u zich gelukkig?	☐	☐	☐	☐	☐
Voelde u zich moe?	☐	☐	☐	☐	☐

10) Hoe vaak hebben uw lichamelijke gezondheid of emotionele problemen u gedurende de afgelopen 4 weken gehinderd bij uw sociale activiteiten (zoals vrienden of familie bezoeken, etc.)?

Altijd	Meestal	Soms	Zelden	Nooit
☐	☐	☐	☐	☐

11) Hoe JUIST of ONJUIST is elk van de volgende uitspraken voor u?

	Volkomen juist	Grotendeels juist	Weet ik niet	Grotendeels onjuist	Volkomen onjuist
Ik lijk wat gemakkelijker ziek te worden dan andere mensen	☐	☐	☐	☐	☐
Ik ben even gezond als andere mensen die ik ken	☐	☐	☐	☐	☐
Ik verwacht dat mijn gezondheid achteruit zal gaan	☐	☐	☐	☐	☐
Mijn gezondheid is uitstekend	☐	☐	☐	☐	☐

Hoeveel pijn had u als gevolg van uw reuma in de afgelopen week? Geef dit aan door een verticaal streepje te zetten op de gewenste plek op de zwarte lijn. Helemaal links is 'helemaal geen pijn' en helemaal rechts is 'ondraaglijke pijn'.

Helemaal geen pijn Ondraaglijke pijn

De volgende woorden geven verschillende gevoelens en emoties aan. Vink alstublieft het vakje aan wat weergeeft in hoeverre u zich zo gevoeld heeft in de afgelopen week.

	Nauwelijks of helemaal niet	Een beetje	Matig	Best veel	In sterke mate
Geïnteresseerd	☐	☐	☐	☐	☐
Uitgelaten	☐	☐	☐	☐	☐
Sterk	☐	☐	☐	☐	☐
Enthousiast	☐	☐	☐	☐	☐
Trots	☐	☐	☐	☐	☐
Alert	☐	☐	☐	☐	☐
Geïnspireerd	☐	☐	☐	☐	☐
Vastberaden	☐	☐	☐	☐	☐
Aandachtig	☐	☐	☐	☐	☐
Actief	☐	☐	☐	☐	☐

Geef aan welk antwoord bij u het best van toepassing is.

	Nooit waar	Bijna nooit waar	Zelden waar	Soms waar	Dikwijls waar	Bijna altijd waar
Het is oké als ik me iets onaangenaams herinner.	☐	☐	☐	☐	☐	☐
Mijn pijnlijke ervaringen en herinneringen maken het me moeilijk om een waardevol leven te leiden.	☐	☐	☐	☐	☐	☐
Ik ben bang voor mijn gevoelens.	☐	☐	☐	☐	☐	☐
Ik maak me zorgen dat ik niet in staat ben mijn	☐	☐	☐	☐	☐	☐

zorgen en gevoelens onder controle te houden.						
Mijn pijnlijke herinneringen verhinderen mij een bevredigend leven te leiden.	☐	☐	☐	☐	☐	☐
Ik heb controle over mijn leven.	☐	☐	☐	☐	☐	☐
Emoties veroorzaken problemen in mijn leven.	☐	☐	☐	☐	☐	☐
Het lijkt erop dat de meeste mensen meer controle over hun leven hebben dan ik.	☐	☐	☐	☐	☐	☐
Zorgen staan mijn succes in de weg.	☐	☐	☐	☐	☐	☐
Mijn gedachten en gevoelens staan de manier waarop ik wil leven niet in de weg.	☐	☐	☐	☐	☐	☐

De volgende vragen gaan over 'waardegericht leven'. Waarden zijn de keuzen die we maken over hoe we ons leven willen leiden. Dit betekent dat je bepaalt wat je belangrijk vindt in je leven, wat voor jou het leven de moeite waard maakt en je inspireert. De vraag die je je hierbij stelt is: wat wil ik van het leven? Wat vind ik belangrijk en wat voor een persoon wil ik zijn? Deze vragen gaan over het kennen van dergelijke waarden en leven naar die waarden.

Geef aan in welke mate u het eens bent met elk van de onderstaande stellingen:

	Helemaal niet mee eens	Niet mee eens	Neutraal	Mee eens	Helemaal mee eens
Ik heb waarden die mijn leven meer betekenis geven.	☐	☐	☐	☐	☐
Ik weet wat mij inspireert in het leven.	☐	☐	☐	☐	☐

Ik heb belangrijke waarden om naar te leven.	☐	☐	☐	☐	☐
Ik heb een belangrijk idee van wat ik met mijn leven zou willen doen.	☐	☐	☐	☐	☐
Ik maak keuzes op basis van mijn waarden, ook wanneer dat spanning geeft.	☐	☐	☐	☐	☐
Ik weet hoe ik mijn leven wil leiden.	☐	☐	☐	☐	☐
Ik weet wat ik met mijn leven wil doen.	☐	☐	☐	☐	☐
Ik vind dat mijn gedrag echt mijn waarden weerspiegelt.	☐	☐	☐	☐	☐
Ik vind dat mijn gedrag past bij mijn persoonlijke behoeften en verlangens.	☐	☐	☐	☐	☐
Mijn emoties weerhouden mij niet om te doen wat ik belangrijk vind.	☐	☐	☐	☐	☐
Ik leef, zoals ik altijd zou willen leven.	☐	☐	☐	☐	☐

Geef aan in welke mate u het eens bent met elk van de onderstaande stellingen:

	Helemaal niet mee eens	Niet mee eens	Neutraal	Mee eens	Helemaal mee eens
Ik ben tevreden over hoe ik mijn leven leid.	☐	☐	☐	☐	☐
Er is niets dat mij tegenhoudt om te doen wat ik echt belangrijk vind.	☐	☐	☐	☐	☐
Ik vind dat ik op dit moment voluit leef.	☐	☐	☐	☐	☐

Ik kom toe aan dingen die belangrijk voor me zijn.	☐	☐	☐	☐	☐
Ik voel dat ik volledig leef.	☐	☐	☐	☐	☐

Dit is het einde van het vragenlijstonderzoek. Eventuele opmerkingen kunt u hieronder kwijt. Als u graag op de hoogte gehouden wilt worden van onze onderzoeksresultaten kunt u hier uw e-mailadres of contactgegevens opschrijven.

Hartelijk bedankt voor uw medewerking!

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Appendix II: Tables of multiple linear regressions of 'emotional wellbeing', 'psychological wellbeing' as well as 'social wellbeing' based on 'positive emotions', 'valued living' and 'acceptance'

Table 1.

Summary of the Multiple Linear Regression Analysis of Variables predicting Emotional Wellbeing

	B	SE	β	p value
Constant	0.59	0.51	-	.25
Variables				
Positive Emotions	0.08	0.01	0.68	.00
Valued Living	0.00	0.02	0.03	.78
Acceptance	0.00	0.01	0.06	.60

Note. $F = 24.15$, $p < .05$; $R^2 = .53$

Table 2.

Summary of the Multiple Linear Regression Analysis of Variables predicting Psychological Wellbeing

	B	SE	β	p value
Constant	-0.37	0.76	-	.63
Variables				
Positive Emotions	0.06	0.02	0.44	.00
Valued Living	0.05	0.02	0.25	.06
Acceptance	-0.01	0.01	-0.14	.30

Note. $F = 9.08$, $p < .05$; $R^2 = .30$

Table 3.

Summary of the Multiple Linear Regression Analysis of Variables predicting Social Wellbeing

	B	SE	β	p value
Constant	-0.72	0.71	-	.31
Variables				
Positive Emotions	0.06	0.02	0.43	.00
Valued Living	0.05	0.02	0.27	.03
Acceptance	0.00	0.01	0.02	.84

Note. $F = 14.54$, $p < .05$; $R^2 = .41$