Bachelorthesis

Does The Lone Wolf Get Burnout?
A positive psychology intervention in Dutch nursing homes, examining positive relations and burnout

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Summary

One of the goals of psychology is ensuring mental health. In the last years, well-being of individuals got in the focus of the positive psychology branch of psychology. Interventions in this field complement mental health promotion and are increasingly applied in a number of different settings. This study is in particular interested in what positive psychology can mean for employee's burnout in nursing homes, with a special focus on the relation between burnout and positive relations. This study aims to answer the question if there is a relationship between positive relations and burnout and if a positive psychology intervention was effective in reducing burnout and improving positive relations. Due to the Job Demand-Resources Model, burnout can be reduced by increasing job resources as positive relations. Positive relations have shown great promise in enhancing well-being and coping with stressful work. Consequently, a negative correlation of burnout with positive relations was hypothesized, as well as a negative effect of the intervention on burnout and a positive effect of the intervention on positive relations. The research was conducted among 144 employees (Eighty-eight employees participated in the experimental condition, 56 employees participated in the control condition). From the participants were 92.3% female with a mean age of 41.9 years. Participants of the experimental condition learned in the eight week long intervention about and practiced with eight topics of positive psychology. An online version of the book "This is your life" from Bohlmeijer (2013) and other training were used. Before and after the intervention, both groups filled in 13 questionnaires about well-being. Burnout was measured by the Utrecht Burnout Inventory (Schaufeli, 2000) and positive relations by the Positive Relations Sub-scale (Ryff, 1989). Weak to moderate negative correlations between positive relations and burnout were found. The findings plead for the fitness of the job demands-resources model of burnout for this study. The effect of the intervention was measured comparing the change in scores over time from the experimental group to the control group. The intervention was effective in improving positive relations ($p = .041$), but not in reducing burnout through the improvement of positive relations. Possible reasons are that the intervention was aimed at changing a great number of wellbeing facets which were not specifically directed at treating burnout, the non-clinical population and the nature of the intervention as mainly offered online and on a group basis. Limitations of the study are the high dropout rate (Fifty-two out of 144 participants did not fill in all questionnaires) and the short duration of the intervention. Strengths are the preventive and non-stigmatizing as well as promising game-like and cost-effective features of the intervention and the information derived about a non-clinical population from an organization. Finally, positive psychology offers great potential in improving the quality of life for many people which calls for a deepening of the scientific basis. Still, scientific principles as falsification need to be respected by psychologists before applying a "one size fits all" approach of mental health.

Samenvatting

Een van de doelen van psychologie is om voor geestelijke gezondheid te zorgen. In de laatste jaren kwam welzijn van individuen in de focus van positieve psychologie, een richting binnen de psychologie. Interventies op dit gebied complementeren mentale gezondheids promotie en worden in toenemende mate in verschillende contexten gebruikt. Deze studie is gericht op wat positieve psychologie kan betekenen voor burnout van werknemers in vier Nederlandse bejaardenhuizen. Deze studie wil de vraag beantwoorden of een samenhang te vinden is tussen positieve relaties en burnout en of een positieve psychologie interventies effectief was in het verlagen van burnout en het verbeteren van positieve relaties. Volgens het Job Demands-Resources Model kan burnout gereduceerd worden door middel van het verhogen van werk hulpmiddelen zoals positieve relaties. Positieve relaties zijn veelbelovend in het verhogen van welzijn en in de omgang mit stresvol werk. Zodoende was een negatieve correlatie van burnout met positieve relaties verondersteld, zo wel als een negatieve effect van de interventie op burnout en een positieve effect van de interventie op positieve relaties. Het onderzoek werd uitgevoerd onder 144 werknemers (acht-en-tachtig werknemers namen in de experimentele conditie deel, 56 namen in de controle conditie deel). Van de deelnemers waren 92.3% vrouwelijk met een gemiddelde van 41.9 jaar. De interventie duurde acht weken. Deelnemers in de experimentele conditie leerden in de acht weken durende interventie over acht onderwerpen uit de positieve psychologie en deden oefeningen daarmee. Een online versie van het boek “Dit is jouw leven” from Bohlmeijer (2013) en ander training werden gebruikt. Voor en na de interventie vulden beide groepen 13 vragenlijsten over welzijn in. Burnout werd gemeten door middel van de Utrechtse Burnout Inventory en positieve relaties door middel van de Positieve Relaties Sub-schaal. Zwakke tot moderate negatieve correlaties tussen positieve relaties en burnout werd gevonden. Deze findingen pleiten voor de geschiktheid van het Job Demands-Resources Model voor deze studie. Vervolgens werd het effect van de interventie gemeten door middel van het vergelijken van de verandering in score over de tijd heen van de experimentele group met de controle group. De interventie was effectief in het verbeteren van positieve relaties ($p = .041$), maar niet in het reduceren van burnout door middel van het verbeteren van positieve relaties. Mogelijke redenen zijn dat de interventie gericht was op het veranderen van een grote hoeveelheid van welzijn facetten welke niet specifiek gericht waren op het behandelen van burnout, de niet-klinische populatie en de aard van de interventie (vooral online aangeboden en op groups-basis). Beperkingen van de studie zijn de hoge uitvallerscijfers (Twee-en-fijftig van 144 deelnemers hebben niet alle vragenlijsten ingevult) en de korte duur van de interventie. Sterkten zijn de zowel preventieve als niet-stigmatiserende en veelbelovende game-aardige kenmerken van de interventie zowel als de niet-klinische populatie uit een organizatie. Tot slot biedt positieve psychologie veel potentieel om de levenskwaliteit voor veel mensen te verbeteren wat een verdieping van de wetenschappelijke basis eist. Steeds, wetenschappelijke principes zoals falsificatie moeten verder van psychologen gerespecteerd worden voordat een “een maat past iedereen” benadering van geestelijke gezondheid gebruikt wordt.

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Introduction

Traditional psychology has focused on pathology and mental illnesses for a long time. After the Second World War, the number of psychologists working as "science-practitioners" increased (Baker & Benjamin, 2000). This led to a growing professionalization of clinical psychologists focusing on mental illnesses (Baker & Benjamin, 2000). Psychological phenomena with negative valence were also found to be more prominent in psychological research (Czapinski, 1985) and psychological textbooks (Carlson, 1966). Baumeister, Bratslavsky, Finkenauer and Vohs (2001) argue that the focus on mental illnesses was and is prominent because psychology as an emerging science had to focus on the strongest possible effects. The power of psychological phenomena with negative valence (e.g. traumas, bad parents, bad impressions) was generally found to be stronger than the power of good one (Baumeister et al., 2001). Yet this focus has lead to a one-sided focus of psychology on pathology and mental illnesses. This was necessary and reasonable in the past, yet with the development of the psychological field more findings came up about the importance of positive phenomena. As Baumeister et al. suggest, the impacts of the bad experiences can be surmounted by sheer force of numbers of good things in one's life and selective perception and memory. And exactly these good things in life are nowadays in the spotlight of one specific branch of psychology, the positive psychology.

Positive psychologists argue that the research on bad psychological phenomena has brought great benefits but is not sufficient in fully describing human functioning (Seligman & Csikszentmihalyi, 2000). In order to supplement existing research, positive psychology has established a field of research focusing on the individuals' well-being. They conceptualized its subjective well-being in terms of emotional, psychological and social well-being (Seligman, 2012). Positive psychology has been tested in a great number of interventions since its rise (Azar, 2011) and can be seen as a complementary strategy in mental health promotion and treatment (Bolier, Haverman, Westerhof, Riper, Smit & Bohlmeijer, 2013). Positive psychology interventions show small effects on subjective and psychological well-being as well as for depression and therefore bear potential for further research (Bolier et al., 2013). This study will introduce one particular positive psychology intervention conducted in four Dutch nursing homes. The study aims to observe the effects the intervention had on positive relations as well as on burnout and how these constructs relate to each other. Because in these days it is established that mental health consists of more than merely the absence of mental illnesses (World Health Organization, 2004). The World Health Organization defines mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (World Health Organization, 2004, p. 60). This definition defines mental health in broad terms which touch many parts of an individual's life.

Burnout

In today's western society, work is a big part of many peoples' lives. This study aims to provide a better understanding of a widespread phenomenon among the working population called *Burnout* (Maslach, Schaufeli & Leiter, 2001). One out of eight Dutch employees reports symptoms of burnout (Sociaal en Cultureel Planbureau, 2014). Burnout is associated with a number of unfavorable outcomes. It is linked to decreased performance at work and a number of mental dysfunctions, such as substance abuse, anxiety, depression and drops in self-esteem (Maslach et al., 2001). According to Maslach et al., these dysfunctions are often stress-related. Decades of research after the first definition of job burnout (Maslach & Jackson, 1981), the definition of burnout was established as a "psychological syndrome in response to chronic interpersonal stressors on the job" (Maslach et al., p. 399, 2001). This response is characterized by three dimensions of burnout. These are first "overwhelming exhaustion", second "feelings of cynicism and detachment from the job" and third "a sense of ineffectiveness and lack of personal accomplishment" (Maslach et al., p. 399, 2001). Overwhelming exhaustion, also called emotional exhaustion, refers to "feelings of being overextended and depleted of one's emotional and physical resources" (Maslach et al., 2001, p. 399). The second component, the cynicism or depersonalization component refers to "a negative, callous, or excessively detached response to various aspects of the job" (Maslach et al., 2001, p. 399). The third component of reduced efficacy or accomplishment refers to "feelings of incompetence and a lack of achievement and productivity at work" (Maslach et al., 2001, p. 399). Burnout is especially common in the human service sector, since for example between 25% to 75% of healthcare workers in geriatrics report risk scores for burnout (De Rooij, Luijkx, Declercq, Emmerink & Schols, 2012; Sanchez, Mahoudi, Moronne, Camonin & Novella, 2014). Nursing homes are therefore especially fit for examining burnout.

Job Demand-Resources Model

Recent literature often refers to the *Job Demands-Resources* (JD-R) *Model* when explaining the causes of burnout (Demerouti, Nachreiner, Bakker & Schaufeli, 2001; Schaufeli, Leiter & Maslach, 2010; Sociaal en Cultureel Planbureau, 2014). The basic assumption of this model is that working conditions can be categorized into two general categories, either into *job demands* or *job resources* (Deremouti et al., 2001). The job demands category includes those aspects of the job that require effort and are therefore associated with physiological and psychological costs (Bakker, Demerouti & Euwema, 2005). Examples of job demands can be: challenging behavior of nursing home residents with dementia, high workload, time pressure or noise (Deremouti et al., 2001). The job resources category includes aspects of the job that "(a) are functional in achieving work goals, (b) reduce job demands (…), or (c) stimulate personal growth and development" (Bakker et al., 2005, p. 170). Examples for work resources are: social support, controllability and predictability of the situation (Bakker et al.,

2005). Job resources are related to higher job-related well-being and therefore to positive psychology (Mäkikangas, Schaufeli, Leskinen, Kinnunen, Hyvönen & Feldt, 2015).

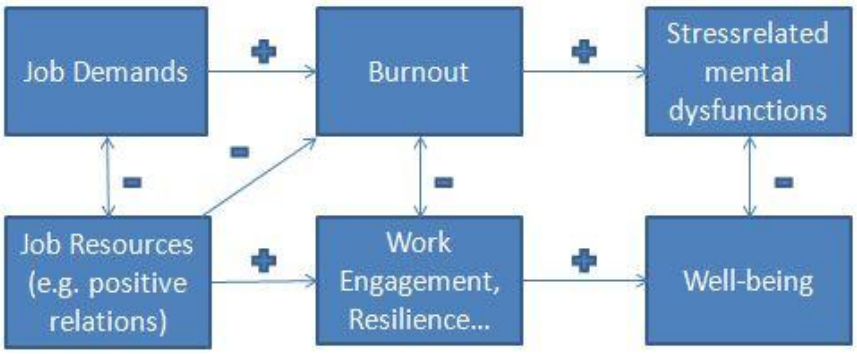
These two work characteristics categories are related to specific outcomes as follows. It is assumed that the categories play a key role in the burnout process (Bakker et al., 2005; Deremouti et al., 2001; Lewig, Xanthopoulou, Bakker, Dollard & Metzer, 2007; Maslach et al., 2001; Schaufeli et al., 2010; Van Emmerik, Euwema & Bakker, 2007; Willemse, de Jonge, Smit, Depla, & Pot, 2012). According to the JD-R model burnout develops out of a misbalance between job resources and job demands. High demands can be handled with sufficient resources at the workplace, while high demands and too few resources can lead to burnout (Bakker et al., 2005). The central assumption therefore is that "job demands evoke a stress process, because they lead to energy depletion, whereas a lack of job resources evokes a withdrawal process, because it undermines employee motivation and learning" (Bakker et al., 2005, p. 176).

A number of studies (Deremouti et al., 2001; Van Emmerik et al., 2007; Willemse et al., 2012) support the notion that job resources, such as social support from colleagues, are an important resource and can therefore compensate high job demands. This notion is called *buffering hypothesis*. Job resources (e.g. positive relations) 'buffer' the adverse effects of job demands (Van Emmerik et al., 2007). Job resources can also be provided by patients as shown by a study in a hospital setting. The study operationalized the assumptions of the JD-R model by investigating effects of the job resource positive relations on burnout (Converso, Loera, Viotti & Martini, 2015). They validated and adapted Zimmermann, Dormann and Dollard's (2011) "Costumers-initiated Support scale" for the hospital setting in order to create a "tool for research that aims to test the effects of the positive side of the relations with patients on physicians and nurses well-being" (Converso et al., 2015, p.3). Positive relations were measured by the patient's gratitude and support shown towards the nurses. The results showed that expressed gratitude has a direct correlation with lower levels of burnout (Converso et al., 2015). Furthermore, direct effects of patient-initiated support and gratitude on nurses' burnout were found. Effects were limited to emotional exhaustion and personal accomplishment and had different patterns in the two groups of nurses who participated in the study[1] (Converso et al., 2015). These findings demonstrate how a positive relationship with patients can reduce burnout, which pleads for the *buffering hypothesis*.

This study follows up on the assumption of the buffering hypothesis. The examined job resource is positive relations. This study will examine in particular its relation with burnout in the context of a positive psychology intervention.

[1] The two groups of nurses participating worked in the emergency unit and in the oncology ward.

Figure 1: *A visualization of the JD-R model in the context of this study*



Positive relations with others

Positive relations were introduced before as a job resource in the JD-R model (Converso et al., 2015). They also form a part of the theoretical framework of positive psychology (Seligman & Csikszentmihalyi, 2000). Keyes (2002) operationalized mental health for positive psychology as "a syndrome of symptoms of an individual's subjective well-being." (p. 208). One of these symptoms can be the relationships people have with each other. These interpersonal relationships, positive or less positive by nature, are an important part of the psychological well-being of individuals (Keyes, 2002). Ryff (1989a) describes a high scorer on positive relations as someone who "Has warm, satisfying, trusting relations with others; is concerned about the welfare of others; capable of strong empathy, affection, and intimacy; understands give and take of human relationships." (p.45). Ryff's (1989a) definition was derived from literature research on psychological well-being. Theoretical background was mainly provided by humanistic psychologists. They stressed the importance of positive relations in their theories of healthy functioning (Ryff, 1989b). One example is Roger (1961) who described a fully functioning person as someone who has a basic trustworthiness of human nature. Also Maslow (1970) emphasized that self-actualizers (his equivalent of Roger's fully functioning person) establish deep satisfying interpersonal relationships with a few people. Erikson (1959) described in his adult stages of development many challenges that are very interpersonal in character as the achievement of close unions with others and the guidance and direction of others. According to Adler & Kwon (2002) the potential of positive relations can be described as *positive social capital* which has a number of beneficial effects. These effects were confirmed by a number of studies on positive relations in general and with a focus on work.

Studies focusing on positive relations in general employ indicators such as expressing gratitude, sharing positive events and counting kindnesses (Dijkstra, Drossaert, Pieterse, Walburg & Bohlmeijer, 2015). An example can be given in the research on the effects of expressing gratitude through letters. In one study, 219 participants wrote three gratitude letters in three weeks time, which led to higher levels of happiness afterwards, as well as higher levels of life satisfaction and fewer depressive symptoms (Toepfer, Cichy & Peters, 2012). Many more research findings show the positive effects of positive relations on well-being (Gable, Reis, Impett & Asher, 2004; Reis, Smith, Carmichaelo, Caprariello, Tsai, Rodrigues & Maniaci, 2010).

A number of studies were conducted examining the effects of positive relations at work. One study of positive relations and burnout was done with HIV care providers. It showed that a positive organizational culture can provide a resource to cope with stressful work and appeared to reduce burnout (Ginossar, Oetzel, Hill, Avila, Archiopoli & Wilcox, 2014). Other research revealed that connectedness mediates the relationship between job resources and determination to continue work as volunteers (Lewig et al., 2007). Positive relations also play a role in a number of possibilities to improve job resources, such as in building resilience (Mills, Fleck & Kozikowski, 2013) and building a climate of trust and respect by heedful relating (Spreitzer, Sutcliffe, Dutton, Sonenshein & Grant, 2005). Last but not least organizations try to implement positive psychology at work through building positive working relationships, such as high-quality connections, relational mentoring or facilitating dream teams (Mills et al., 2013). Reported effects of such dream teams are: increased work engagement, work performance, role clarity and job satisfaction (Mills et al., 2013). This is achieved by mainly giving way to encouraging positive working relationships and as also through improving resilience (Mill et al., 2013).

Research Questions

This study aims to provide knowledge about the relationship between positive relations and burnout. The relationship will be examined in the context of a positive psychology intervention. The intervention aims to improve well-being of the employees of nursing homes via the intervention "This is your life" from Bohlmeijer and Hulsbergen (2013) and other training. It will be examined if burnout is lower due to the intervention via the increase in positive relations.

The questions this study aims to answer are: Are positive relations related to lower burnout? And is this shown by means of a positive psychology intervention which improves positive relations and therefore could lower burnout?

Hypotheses

Based on the literature review presented above, the following hypotheses are posed:

1. Positive relations correlate with lower levels of burnout.

This is indicated by a significant correlation from positive relations scores with scores from each of the three dimensions of burnout.
In terms of the burnout dimensions:
1.1. Positive relations scores correlate negatively with emotional exhaustion scores.
1.2. Positive relations scores correlate negatively with depersonalization scores.
1.3. Positive relations scores correlate positively with personal accomplishment scores.

2. The positive psychological intervention "This is your life" has a positive effect on positive relations.

Positive relations scores of participants of the intervention will be higher compared to scores of the control group.

3. The positive psychological intervention "This is your life" has a negative effect on burnout.

Burnout scores of participants of the intervention will be lower compared to scores of the control group.
In terms of the burnout dimensions:
3.1. Emotional exhaustion scores of participants of the intervention will be lower compared to scores of the control group.
3.2. Depersonalization scores of participants of the intervention will be lower compared to the control group.
3.3. Personal accomplishment scores of participants of the intervention will be higher[2] compared to the control group.

Method

Procedures

The data used in this study was obtained in 2015 by a researcher from the University of Twente. The research took place in four care units for elderly people of the Sint Maarten group. Participants were employees of the nursing homes. Whereas, two nursing homes offered somatic care, the other two offered assisted living. The nursing homes, offering the same care, were also comparable to each other based on the highest reached educational level of the nursing personnel. From each care unit category, one nursing home was randomly selected to participate in the intervention while the other formed the control group. Both the experimental group and the control group filled in thirteen questionnaires before (this measurement moment is called t0) and after the intervention (this measurement moment is called t1). The two measurement moments were eight weeks apart. The questionnaires administered measured thirteen variables, derived from positive psychology[3], one global well-being measure[4] and other concepts[5]. In addition to the questionnaires, the experimental group completed the intervention "This is your life" from Bohlmeijer and Hulsbergen (2013) in a context of more training offered by the nursing home's organization. Further descriptions of the intervention follow below. All participants completed the intervention at home in their own time. Completing the intervention was mandatory but

[2] Please note that the effect is reversed compared to the other burnout dimensions. This is due to the conceptualization of the questionnaire measuring burnout. Further information see Method section.
[3] Variables measured were: [1] Satisfaction with life, [2] Strenghts Knowledge Scale, [3] Strenghts Use Scale, [4] Emotion scale, [5] Life Orientation Scale, [6] Self-Compassion Scale, [7] Positive Relations Subscale, [8] Basic Needs Satisfaction at work
[4] The Mental Health Continuum
[5] Other concepts were: Burnout, Posttraumatic growth, Work engagement and Work load

participants could get money for the time they invested and could have the time invested accounted for their training. The participants of the experimental and the control group were asked for their consent to take part in the study and for the use of their data.

Participants

The participants were employees of nursing homes, ranging from an age of 16 to 65 with a mean of 41.9 years. Eighty-eight employees participated in the experimental group and 56 employees participated in the control group (N = 144). Data from 52 participants missed on varying questionnaires. The majority of the participants were female, constituting for 92.3% of the sample (5.6% was male and 2.1% was missing). Forty-four percent of the employees worked between 17-24 hours per week and 8.4% were employed as full time employees. The highest completed education of the employees in the experimental group was junior high school, with 39.9%. The majority of the employees were caregivers except three individuals, who were still in training or on an internship.

Materials

Two questionnaires were used for this thesis, the Utrecht Burnout Scale (UBOS) and the Positive Relations Subscale (PRS) from Ryff's (1989a) test of psychological well-being.

UBOS

Burnout was assessed by using the Dutch version of the Maslach Burnout Inventory (Schaufeli, Leiter, Maslach & Jackson, 1996), the Utrecht Burnout Scale (Schaufeli & Van Dierendonck, 2000). The psychometric properties of the Maslach Burnout Inventory for human services have been assessed widely and were proven sufficient (Bakker, Deremouti & Schaufeli, 2002; Worley, Vassar, Wheeler & Barnes, 2008; Aguayo et al., 2011). The Dutch version of the original test consists of fifteen items as "I feel mentally exhausted by my work" and "I doubt the usefulness of my work". See appendix 1 for an overview of the Dutch items[6]. Item 13 was left out of the analysis due to the low strength of the item[7]. The items together form the three sub-scales: (a) emotional exhaustion (referred to as EE, 5 items), (b) depersonalization (DP, 4 items) and (c) personal accomplishment (PA, 6 items) (Schaufeli & Dierendonck, 2000). A 7-point Likert scale ranging from 0 (*never*) to 6 (*always, daily*) measures the response of the participant. The COTAN judged the basic assumption, the quality of the test material, the concept validity and criteria validity as good. The quality of the test manual as well as the reliability and the norms were judged as sufficient (COTAN evaluation, 2000). Factorial validity was also assessed and was judged as very good. Vanheule, Rosseel, Vlerick, van de Ven and Declercq (2012) showed with a CFA that a three-factor model (the three factors representing the three burnout dimensions) provided a very good fit for their data. With the help of a Guttman's λ_2 test the reliability of the UBOS was judged as sufficient to good for the scales (Table 4 in appendix 3 summarizes the

[6] The version of the questionnaire intended for the general populations was used (UBOS-A).
[7] The item belonged to the EE sub-scale.

results of Guttman's λ_2 test). Guttman's λ_2 was chosen over (the more commonly used) Cronbach's alpha. This is because Guttman's λ_2 uses the same characteristics of the questionnaire as Cronbach's alpha, yet Guttman's λ_2 calculates internal consistency far more accurate (Sijtsma, 2009).

PRS

In order to measure positive relations, one subscale from the Dutch version of Ryff's (1989a) test of psychological well-being was used, the Positive Relations Subscale (PRS). The sub-scale contains nine items (as for example "maintaining intimate relationships is difficult and frustrating for me"). See appendix 2 for an overview of the Dutch items. The items were scored on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Five items required recoding before summarizing to a total score (Dierendonck, 2005). Factorial validation of Ryff's (1989b) psychological well-being test showed that a correlated six-factor model presented a good fit (Abbott, Ploubidis, Huppert, Kuh & Croudace, 2009; Kállay & Rus, 2014; Burns & Bachin, 2009). Reliability was sufficient for the subscale used[8] (Kállay & Rus, 2014). The researcher also judged face validity by assessing which items have to be recoded before looking at the scoring. The items were assessed correctly; this is an indicator for good face validity.

Description of the intervention

The experimental group followed an intervention consisting of two parts. First, a positive psychology intervention called "This is your life" was used. It was designed as an online version of the book "This is your life" from Bohlmeijer and Hulsbergen (2013). The website designed for the intervention contained a game-like landscape with eight regions representing domains from positive psychology. Each region contained psycho-education derived from theories and empirical evidence in positive psychology and exercises. Participants completed this part of the intervention by completing all exercises from all regions. The domains represented positive emotions, flow, self-compassion and positive relations to name a few. The region of importance for this study is the region of the positive relations domain (the market of encounters). It contained six exercises aiming at improving positive relations. Three of the six exercises were mandatory. The exercises were titled: "Active and constructive reacting" (mandatory), "Active listening", "Expressing gratitude" (mandatory), "What are your biggest needs at this moment?" (mandatory), "Wishing somebody else something good" and "Forgiving". The exercises for positive relations were derived from Rosenberg's (2003) 'Nonviolent communication' and other research findings showing the effects of positive relations on well-being (Gable, Reis, Impett & Asher, 2004; Reis, Smith, Carmichaelo, Caprariello, Tsai, Rodrigues & Maniaci, 2010).

[8] Guttman's λ_2 of the PRS was .759 at t0 and .844 at t1. Results are summarized in Table 4 in appendix 3.

Data analysis

In order to draw conclusions over the hypotheses posed above, statistical analyses will be made with the data. For the analysis the program SPSS will be used (George & Mallery, 2002). First of all, in order to create the summed score of the questionnaires the reverse items have to be recoded. The PRS features five items in need of recoding. Second, the summed score of the three UBOS subscales will be formed by adding the items of each sub-scale apart into one summed score per sub-scale, resulting into three summed scores. The summed score of the PRS will also be formed by adding all the items together after recoding. Third, a description of the data will be developed and means and standard deviations of all subscales will be calculated. Fourth, the normality will be assessed by using the Shapiro-Wilk test of normality. The outcome of the normality test will determine if (non-) parametric tests need to be used in the later analysis of the second and third hypothesis. H_0 for normality is a normal distribution and H_a is no normal distribution[9]. The tests will be determined by the higher number of either a normal or no normal distribution. Reliability was already tested by assessing Guttman's λ_2 (See Table 4 in appendix 3 for results).

Following from this, the hypotheses will be tested. For the first hypothesis Pearson's correlation of the mean scores of the sub-scales at t0 (of both groups combined) will be calculated. According to Rumsey (2011), a strong correlation is an indicator of a strong relationship between scores. It was hypothesized that positive relations correlate negatively with burnout. In terms of the dimensions, it is hypothesized that positive relations correlate negatively with emotional exhaustion (hypothesis 1.1) as well as depersonalization[10] (hypothesis 1.2) and positively with personal accomplishment[11] (hypothesis 1.3). Tests of the second hypothesis and the third hypothesis (and its sub-hypotheses) aim at examining the effects of the intervention. This will be accomplished by comparing the differences between the scores from t0 to t1 over the conditions. Difference of scores will be calculated by subtracting the mean of t0 scores from t1 scores. Difference scores of the populations will be compared by using either the t-test for independent samples (for normal distributions) or the independent-samples Mann-Whitney U test[12] (for no normal distributions).

[9] H_0: $p < .05$; H_a: $p > .05$; $\alpha = .05$
[10] H_0: $r = 0$; H_a: $r < 0$; $\alpha = .05$
[11] H_0: $r = 0$; H_a: $r > 0$; $\alpha = .05$
[12] For both tests: H_0: $\bar{x}_{t1} - \bar{x}_{t0} = 0$; H_a: $\bar{x}_{t1} - \bar{x}_{t0} > 0$; $\alpha = .05$

Results

Missing data

Data from 52 participants was incomplete (see appendix 4 for data references). Participants lacked responses on a varying number of questionnaires. The responses of these participants could sometimes not be taken into specific analyses, yet still into others[13]. To be precise, n = 120 for testing hypotheses 1, n = 97 for testing hypothesis 2 and n = 91 for testing hypothesis 3 (N = 144). One participant did not give his consent for using the data so he was left out of the analyses.

Descriptive data

In order to determine the tests for analyzing the data, a descriptive analysis was conducted. The normality of the distribution was tested for each summed score per group. The H_0 was true for 7 sub-scales out of the 16 sub-scales for the groups apart (see Table 1). Due to the varying normality of distributions, different tests were used for the sub-hypotheses. Normality is given for all PRS sub-scales; therefore a t-test was used for testing hypothesis 2. The UBOS sub-scales varied concerning normality of distribution. The majority of UBOS PA sub-scales were normally distributed, but the majority of the other UBOS sub-scales were not normally distributed. Therefore two different tests were used for testing hypothesis 3. For testing the EE and DP sub-scales, the non-parametric Mann-Whitney U test was used. For testing the PA sub-scale, the independent samples t-test was used. Descriptive statistics of the sub-scales as means and standard deviation can be found in Table 1.

[13] Analyses for the three hypotheses require answers from specific questionnaires at specific measurement moments. For example the correlation analysis (hypothesis 1) required scores on PRS and UBOS at t_0, in contrast to that did testing the second hypothesis require scores on PRS at both t_0 and t_1.

Table 1

Descriptive statistics for summed scores of each scale divided by experimental and control group

	T0		T1	
Summed score	M	SD	M	SD
	Experimental group			
PRS	40.1875*	5.52347	40.9531*	4.87439
UBOS EE	5.6494	3.95623	6.1270	4.79749
UBOS DP	3.4805	3.27515	3.5873	3.64397
UBOS PA	27.2338*	5.96237	28.1270*	5.35962
	Control group			
PRS	41.8936*	4.78560	41.2895*	4.60850
UBOS EE	5.4706	5.11229	5.5588*	3.83912
UBOS DP	3.0294	2.65701	3.4118*	3.14419
UBOS PA	28.2353	4.37665	28.1176*	5.73392

**Level of significance for the normality of the variables (measured by Shapiro-Wilk test): $p > .05$*

Testing the hypotheses

In the introduction three hypotheses about the data were made. The first hypothesis was that a negative correlation between positive relations and burnout exists. The second hypothesis states that the intervention has a positive effect on positive relations. The third hypothesis states that the intervention has a negative effect on burnout. Results of testing the hypotheses follow below.

Hypothesis 1

Table 2 shows the correlations between PRS and UBOS scales for both groups combined. The correlations are as hypothesized. PRS has a negative correlation with EE and DP and a positive correlation with PA. The correlations of PRS were weak and negative for the EE sum score ($r = -.265$). They were negative and moderate for the DP sum score ($r = -.406$). The correlations were positive and moderate for the PA sum score ($r = .474$). By this the H_0 of hypotheses 1.1, 1.2 and 1.3 were rejected.

Table 2

Correlations of the scales and their significance level for both groups combined

	T0 UBOS EE	T0 UBOS DP	T0 UBOS PA
T0 PRS	-.265 *	-.406*	.474*

*Significance level of Pearson's correlation test: $p < .05$ level

Hypothesis 2 and 3

The results of the analysis conducted show if the difference scores of experimental group and control group differed. A significant difference between the PRS scale was found by using the independent samples Mann-Whitney U test ($p = .041$). As support for the effect on the intervention on PRS was found, H_0 of hypothesis 2 was rejected. The same test was used for testing sub-hypothesis 3.1, 3.2 and 3.3. No significant difference was found for the burnout sub-scales (see Table 3). Therefore, H_0 of hypotheses 3.1, 3.2 and 3.3 could not be rejected.

Table 3

Display of results from comparing difference scores from experimental and control group

	Significance level	Mean of difference scores	
		Experimental group	Control group
PRS	.041*	0.9839	-0.5714
UBOS EE	.811 **	0.9298	0.2353
UBOS DP	.356 **	0.4912	0.3824
UBOS PA	.352***	0.6842	-0.1176

* Significance level for independent samples t-test: $p < .05$
** Calculated by using independent-samples Mann-Whitney U test
*** Equal variances assumed, as significance level of Levene's Test for Equality of Variances: $p > .05$

Discussion

Interpretation of results

Correlation analysis showed correlations as hypothesized. Positive relations correlated negatively with Emotional Exhaustion and Depersonalization. Also, positive relations correlated positively with Personal Accomplishment. These findings correspond with findings from the literature (Bakker et al., 2005; Caza & Milton, 2012; Converso et al., 2015; Deremouti et al., 2001; Gnossar et al., 2014; Lewig et al., 2007; Schaufeli et al., 2010; Willemse et al., 2012). Still, the correlations were only weak to moderate (see Table 2), thereby interpretations made need to be considerate of the informative value of correlations. Correlation is not equal to causation (Rumsey, 2011). Yet, the correlations found do plead for the fitness of the basic assumption of this study and therefore justify the way this study was conducted. The assumption was that job resources (in this case positive relations) can buffer the effects of burnout[14]. Consequently, further analyses were made in order to look for advanced confirmation of the basic assumption.

In these analyses it was tested whether the intervention had effect on positive relations. This was done by comparing the changes of the experimental and control group over time with each other. Analyses indicated that the intervention indeed was successful and thus effective in improving positive relations. This assumption corresponds with previous research on positive relations (Bolier et al., 2013; Dijkstra et al., 2015; Gable et al., 2004; Meyers et al., 2013; Mills et al., 2012; Reis et al., 2010; Toepfer et al., 2012). Building up on the earlier hypotheses, burnout was hypothesized to be reduced via the improvement in positive relations. Yet, burnout was not reduced due to the intervention. Therefore, it cannot be concluded that positive relations succeeded in reducing burnout. It is possible that burnout did not change because of the great number of variables the intervention addressed. The intervention consisted of training for improving well-being and an online intervention on eight areas of well-being. These facets were all aiming at improving well-being, yet not specifically at treating burnout. Thirteen variables were measured, but only one of them was burnout (for a summary of the variables see description of the intervention). Furthermore, the sample was derived from a non-clinical population. The participants were employed at the nursing homes, so obviously able to hold a job. An effectivity study on depression reports that the best results can be found when the intervention was offered to “people with certain psychosocial problems” and if they were recruited via referral from a health care professional or a hospital (Bolier et al., 2013, p. 16). Depression and burnout have symptoms which are alike and often confounded (Dewulf & Vangroensveld, 2012). Therefore it is possible that these findings also apply to burnout. Consequently, this could explain why this intervention is not effective in treating burnout. Moreover, the intervention was mainly offered online and on a group basis. It was found that positive psychology interventions conducted face-to-face and on an individual basis were most effective (Bolier et al., 2013). Finally, positive psychology has to

[14] Assumptions were made based on the JD-R Model, see Figure 1 in Introduction.

face the fact that bad experiences have a bigger impact on humans than good ones (Baumeister, et al., 2001). As mentioned before, it is proven that psychological effects of bad psychological phenomena outweigh those of good ones (Baumeister et al., 2001). Luckily, good phenomena can outweigh bad ones by sheer force of numbers or by selective perception and memory (by example cultivating good events in life by reminiscing, Baumeister et al., 2001). One of these phenomena cultivating happiness in life can be for example having positive relations. Taking a diagnostic index for evaluating relationships, proposed by Gottman (1994), in order for a relationship to succeed, positive interactions must outnumber the negative and bad ones by a ratio of at least five to one. This implies that the negative is five times stronger than the positive. Therefore, small effect sizes have to be anticipated when trying to measure positive effects.

Limitations

This study has a number of limitations. The time between both measurement moments (8 weeks) was maybe too short for great changes to happen. The intervention could possibly not have had enough time to work thoroughly and change all facets. Effectiveness of depression interventions for example can be increased by offering the intervention over a longer period (Bolier et al., 2013). Plus, the intervention did not measure effects after a longer period of time passed since the end of the intervention. This could be advantageous because effects could have shown up later (Bolier et al., 2013; Seligman, Steen, Park & Peterson, 2006). In addition, the sample used could also bias the findings. This study had a high dropout rate, 52 out of 144 participants did not fill in all questionnaires. The number rose at t1 compared to t0[15]. Because of this, it was not possible to analyze data from the whole sample. This might have lead to a distortion of the data.

Strenghts

With these limitations in mind, the strengths of this study should not be forgotten. The intervention studied here could set an example for future positive psychology interventions. The game-like features of the intervention for example bear potential for giving way to a “gamified intervention”. Gamification is seen as a promising concept which has been studied in many areas as education, training and psychology (Harman, Koohang & Paliszkiewicz, 2014). Even more, gamification is believed to be worthy of serious study as the network of scholars studying gamification has been increasing[16] (Harman et al., 2014). Another promising aspect of this intervention is its relative cost-effectiveness due to the online version of Bohlmeijer and Hulsbergen’s (2013) book. Cost-effectiveness could persuade policy-makers to realize the potential of positive psychology. Additionally, it has been advised to prevent publication bias by publishing research even if the outcomes were not significant (Bolier et al., 2013). Ultimately, this intervention gave an opportunity

[15] For data reference of participants missing responses see appendix 4.
[16] The network has been increasing until 2014, the time the research was conducted. Information on more recent development was not available.

for a preventive, non-stigmatizing and easily accessible intervention on a population which would otherwise rarely have the opportunity for this kind of treatment. It opened the discourse about positive psychology in these nursing homes and made a start in talking about well-being. The fact that the sample was derived of a non-clinical population widens the circle of impact this study can have. It brings positive psychology with a basis from the theory and the clinical field into the workings of an organization. These populations have been advised by Bolier et al. for further research.

Recommendations

Taking everything into account, positive psychology offers great potential to improve the quality of life for many people. Even more, it could contribute a lot to the prevention of mental illnesses. For this to happen, further research needs to deepen and improve the scientific basis of positive psychology. There is a need for conducting more high-quality studies to get robust conclusions about the effects of positive psychology interventions. What could raise the quality of these interventions are more interactive support, personalization and tailoring self-help interventions to individual needs (Bolier et al., 2013). Trying to have a high adherence of the intervention could also improve the quality. Follow-up tests or conducting a qualitative study afterwards could give inspiration for further research and more insight into the limitations of positive psychology.

Finally, one critical remark about observations made concerning positive psychology. Positive psychology has shown its additional value to psychology, a science which obligates psychologists to honor scientific principles as the falsification theory posed by Popper (1959). Yet positive psychology is being applied in a wide range of settings and a lot of non-scientific self-help books[17] on positive psychology sell very successfully. Caution is in order before applying a "one size fits all" approach of mental health or applications which could underestimate the complexities of human personalities. Psychologists are obligated to remain scientific, to falsifying their findings and thereby to look for exceptions to the rule.

Conclusion

This research provided insight in how burnout and positive relations change in a non-clinical sample due to a positive psychology intervention and how they relate to each other. It has given unique insight and a better understanding of the workings and limitations of positive psychology in an organization.

[17] For example Peale's (1990) "The power of Positive Thinking", a book from a reverend with more than 15 million copies sold, or "The secret" from Byrne (2006).

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Supplementary Materials Section

Appendix 1: Dutch items of the Utrecht Burnout Scale:

1.: Ik voel me mentaal uitgeput door mijn werk. (EE)

2.: Ik twijfel aan het nut van mijn werk. (DP)

3.: Een hele dag werken vormt een zware belasting voor mij. (EE)

4.: Ik weet de problemen in mijn werk goed op te lossen. (PA)

5.: Ik voel me opgebrand door mijn werk. (EE)

6.: Ik heb het gevoel dat ik met mijn werk een positieve bijdrage lever aan het functioneren. (PA)

7.: Ik merk dat ik teveel afstand heb gekregen van mijn werk. (DP)

8.: Ik ben niet meer zo enthousiast als vroeger over mijn werk. (DP)

9.: Ik vind dat ik mijn werk goed doe. (PA)

10.: Als ik op mijn werk iets afrond vrolijkt me dat op. (PA)

11.: Aan het einde van een werkdag voel ik me leeg. (EE)

12.: Ik heb in deze baan veel waardevolle dingen bereikt. (PA)

13.: Ik voel me vermoeid als ik s morgens opsta en er weer een werkdag voor me ligt. (left out of analysis) (EE)

14.: Ik ben cynischer geworden over de effecten van mijn werk. (DP)

15.: Op mijn werk blaak ik van zelfvertrouwen. (PA)

Appendix 2: Dutch items of the Positive Relations Subscale:

1.: De meeste mensen zien mij als liefdevol en hartelijk.

2.: Het handhaven van intieme relaties is moeilijk en frusterend voor me. (recoding necessary)

3.: Ik voel me vaak eenzaam omdat ik maar weinig goede vrienden heb met wie ik mijn zorgen deel (recoding necessary)

4.: Ik geniet van persoonlijke gesprekken met familieleden.

5.: Ik heb niet veel mensen om me heen die naar me willen luisteren wanneer ik behoefte heb om te praten. (reconding necessary)

6.: Ik heb het idee dat veel andere mensen meer vrienden hebben dan ik. (recoding necessary)

7.: Mensen zullen we omschrijven als een vrijgevig persoon, bereid om mijn tijd door te brengen met anderen.

8.: Ik heb niet veel warme en vertrouwenswaardige relaties met anderen ervaren. (recoding necessary)

9.: Ik weet dat ik mijn vrienden kan vertrouwen en zij weten dat ze mij kunnen vertrouwen.

Appendix 3: Table 4, Guttman's λ_2

Guttman's λ_2 for the subscales of the tests ordered by the two measurement moments

	PRS	UBOS EE	UBOS DP	UBOS PA
T0	.759	.886	.748	.813
T1	.844	.887	.740	.833

Appendix 4: Participants who only filled in some questionnaires (by participant data reference):

MA005, MA011, MA012, MA013, MA106, MA107, MA110, MA302, MA305, MA307, MAT001, MAT002, MB110, MB115, MC103, MC104, MC114, MC115, MC116, MC117, MC118, MC119, MC120, MC124, MC127, MC129, MC113, MC137, MC138, MC140, MC142, MC146, MC147, MC148, MD002, MD003, MD005, MD008, MD105, MD106, MD107, MD108, MD202, MD205, MD209, MD301, MD305, MD308, MD408, MD502, MD507, MDT001

➔ 52 participants missed some data in this dataset.