The link between work related basic need satisfaction and subjective well-being in the residential care

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Abstract

Objective: The main objective of this study was to investigate the link between satisfaction of the need for autonomy, competence and relatedness at work as proposed by self-determination theory and subjective well-being among nurses in the residential care. Furthermore, it tested whether balanced satisfaction of the work related needs has a connection with well-being.

Methods: The design of this study was by questionnaire survey, taken in four different nursing homes in the Netherlands. 121 members of the nursing staff participated in this study, answering three questionnaires measuring the work related needs, satisfaction with life and positive and negative affect. The absolute differences between the need satisfaction scores were summed to create a score that represents balance among the needs.

Results: The analysis confirmed the theory of STD. Need satisfaction was related to subjective well-being. Furthermore, each need was particularly important for one part of subjective well-being. Relatedness related most strongly to satisfaction with life, competence to positive affect and autonomy was related to less negative affect. The needs were nearly perfectly balanced among this sample. Balanced need satisfaction and well-being were not correlated with each other.

Conclusion: Although this study was not able to support the link between balanced need satisfaction and well-being, each need was related to a specific part of well-being and should therefore be addressed by management in the residential care.

Introduction

Mental health is an important issue for workers in the health care sector. The absence of mental health not only leads to psychological ill-being among the health care providers but this ill-being also impairs the quality of care due to lowered functioning (Gärtner, Nieuwenhuijsen, van Dijk, & Sluiter, 2010; Letvak, Ruhm, & McCoy, 2012). This study focused on nurses in residential care as a target group because this sector probably faces the biggest increases in demand with a constantly aging population and increases in degenerative diseases like dementia (Lokkerbol, & Smit, 2013; CSHA, 1994). There is a great need for these nurses who are essential for the quality of care in residential care (Kayser-Jones, 1989). Mental ill-being of nurses leads to general and medication errors, less patient safety and less patient satisfaction (Gärtner et al., 2010).

Mental health as defined by the world health organization (WHO, 2014) is 'a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community'. This definition highlights the importance of not only the absence of psychological ill-being but the existence of the positive dimension of well-being which enables people to cope effectively with their environment. This characteristic seems particularly important in the often highly demanding workspaces of nurses. Numerous studies point to poor working conditions due to understaffing (Aiken, 2002; Leiter & Maslach, 2009; Lu, While, & Barriball, 2005) which leads to burn-out and turn-over. In 2012, 13 percent of nurses in the Netherlands were at high risk of developing burn-out (Vandenbroeck et al.). Another study in the Netherlands (Maurits, de Veer & Francke, 2012) reported that 39 percent of the surveyed nurses predicted not being able to work until the

regular retirement age of 65 due to dissatisfaction and high pressure at work. This is particularly alarming considering there is a constantly rising demand for nurses in our modern society (Lokkerbol, & Smit, 2013).

This study used the construct of subjective well-being to assess the well-being of nurses. This construct measures both positive and negative affect as well as overall life satisfaction (Diener, 1984). The idea behind this construct is that the individual evaluates the worthiness of one's life.

This study aimed to assess subjective well-being in the context of self-determination theory developed by Ryan and Deci (2000). According to this theory, basic psychological needs are basis for human flourishing and well-being. The fulfilment of innate psychological needs is the key to feeling intrinsically motivated, self-regulation and well-being that, among others results, is effective coping with stressful events. Van den Broeck, Vansteenkiste, de Witte, Soenens and Lens (2010) applied the three basic psychological needs of autonomy, competence and relatedness to the workspace. Autonomy describes the degree to which one feels free to schedule and determine the procedures to carry out certain tasks. The worker can feel autonomous even in cases of relying on others as long as he/she is provided with meaningful reasons to work in a certain manner (Soenens et al., 2007). Competence refers to the effectiveness of one's interaction with the environment. Competent people feel capable to engage and learn from challenging tasks and adapt to changing environments. Relatedness describes the need for belongingness and connectedness with others. Related individuals feel that they are part of a community at work and have meaningful relationship within that workspace. According to self-determination theory (Ryan & Deci, 2000), all three needs are fundamentally important for well-being, and they may be compared to nutrients that create growth and well-being. Like people that drink water but do not consume food, missing out on

one of the needs causes significant constraints in well-being. Although work related need satisfaction has been widely researched and the link to well-being has been confirmed multiple times (Baard, Deci, & Ryan, 2004; Gillet, Fouquereau, Forest, Brunault, & Colombat, 2012; Van den Broeck et al., 2010), the unique relation of work related need satisfaction and subjective well-being has not yet been researched in a nursing setting. Identifying a need to be particularly important for the well-being of nurses can act as an indicator for future well-being interventions in this sector. In accordance with this theory the first two hypotheses for this research were:

1. Work related basic need satisfaction is positively related to subjective well-being.

2. Each basic need has a unique positive relation to subjective well-being.

This nutrient metaphor further applies to the balance hypothesis from Sheldon and Niemiec (2006, 2009) which was also tested for in this study. The hypothesis states that satisfying the three needs equally effects subjective well-being more positively than the same total satisfaction but with unequally satisfied needs. In their study Sheldon and Niemiec (2009) showed that balance among the needs had unique positive relation with well-being, independent of need satisfaction. The concept relates back to the nutrient metaphor: Not only is every nutrient important for growth, but feeding the nutrients equally leads to greater growth than feeding the same total amount of nutrients but unequally much per kind. The balance hypothesis, in contrast, has never been tested for work related need satisfaction before. Although it has been confirmed multiple times for general need satisfaction (Sheldon & Niemiec, 2006; Sheldon, Abad, & Omoile, 2009; Kloos, Trompetter, Bohlmeijer, & Westerhof, 2018), it has not yet been tested in the workspace. In accordance with this theory the third hypothesis was:

3. Balanced work related basic need satisfaction has a unique positive relation to well-being.

Methods

The design of this survey was a questionnaire survey, taken online via the survey platform Qualtrics. The survey was taken with nurses from four different nursing homes, all of them belonging to one care group. Participants were approached by the researcher via e-mail. Their participation was rewarded with half an hour of work disbursed.

Participants

A total amount of 121 nurses took part in this survey. The nurses were all working with frail older adults in four different nursing homes in the Netherlands. 116 participants were female and 5 were men, which makes for a 24/1 ratio. Most of them were working as third level nurses, working 17 and 24 hours per week on average. The age of the participants ranged from 16 to 65, with an average age of 42 (SD = 12.1). Around 80 percent were living in a relationship, sharing an apartment. Around three-quarter of these couples were raising children. 8 participants' parents had an immigrant background.

Material

This research was part of a bigger survey in which various questionnaires were filled in by the participants. For this particular study, only the questionnaires testing subjective well-being and work related need satisfaction were important and are discussed in the following section.

Well-being

In order to measure the subjective well-being of the participants, there were two questionnaires taken. To measure the affective component of well-being the modified Differential Emotions Scale (mDes; Schaefer, Nils, Philippot, & Sanchez, 2010) was taken.

The 16 items in this scale consist of a number of emotionally related terms like “loving, affectionate, friendly”. Participants rated on a scale from 1 (*not at all*) to 7 (*very intense*) how much they related to these emotions in the past. Five items make up for the subscale of positive affect (“joyful, happy, amused”) (Dibbets, & Evers, 2017). Another eight describe the negative affect of a participant (“angry, irritated, mad”). Together, these 13 items make for the affective well-being. There are three more items describing general arousal that were not used for further analysis. Negative affect showed a good reliability with a Cronbach’s alpha of .84. The subscale for positive affect showed only the minimum reliability of .65. If the item ‘moved’ was deleted, reliability increased to .84 like the negative affect scale. The item was still kept because a reliability of .65 is still acceptable and the theoretical concept shall not be corrupted by deleting one out of four items.

The second scale measuring the cognitive part of well-being was Satisfaction with Life Scale (SWLS; (Diener, Emmons, Larsen, & Griffin, 1985). This scale measured the overall life satisfaction with five items (“The conditions of my life are excellent.”). Participants rate their agreement with the statements on a scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). This scale is very reliable with a Cronbach’s alpha of .90.

Need satisfaction

To measure need satisfaction at work, the Dutch Work Related Basic Needs Satisfaction Scale (W-BNS; Van den Broeck et al., 2010) was taken. This scale consists of 18 items total, which are rated on a scale from 1 (*totally disagree*) to 5 (*totally agree*). Higher scores indicate a higher need satisfaction. The 18 items are divided into three subscales consisting of six items each. The need for autonomy makes the first subscale (e.g. “I feel free to do my job the way I think it could best be done.”). The need for competence is the second subscale (e.g. “I really

master my tasks at my job."). The last subscale describes the need for relatedness (e.g. "At work, I feel part of a group."). There were means calculated for every subscale. All three subscales showed to be reliable with alpha coefficient of .77 for autonomy, .74 for competence and .73 for relatedness.

Balance hypothesis

In order to test for balance, there was a balance score calculated in line with Sheldon and Niemiec (2006). The score indicates the difference among the three needs. First, there were pairs formed of all possible need combinations (autonomy-relatedness; autonomy-competence; competence-relatedness). The total difference among each pair was summed with the other total differences which makes for a score ranging from 0 (equal need satisfaction, perfect balance) to 8 (maximum imbalance among need satisfaction). The actual score was subtracted from the maximum score of 8 with the result that a high score equaled high balance in need satisfaction.

Analysis Plan

Mean replacement was used to treat single missing values among participants who completed the survey apart from that one value. The value was replaced by the participant's mean response on that scale. According to the first hypothesis, need satisfaction is positively correlated to subjective well-being. A correlation analysis was run in SPSS. The correlations between each need satisfaction subscale and both the affect subscales and satisfaction with life were analyzed. Correlation coefficients of $r \leq .29$ indicate a weak correlation, $r \leq .49$ a moderate one and $r \geq .50$ a strong correlation (Cohen 1988). To test the second and third hypotheses, there were three multiple regression analysis conducted with each the three needs, autonomy, competence and relatedness, as independent variables and the two well-being scales as independent variables. This first model tested the second hypothesis which proposed

that each individual need has a unique relation with well-being when controlling for the other two needs. First, the reliability of the calculated beta coefficients in this model were tested by calculating variance inflation factors (VIF). Values above 10 indicated multicollinearity among the independent variables and thereby unreliable beta coefficients (Alin, 2010). The beta coefficients linked to VIF's above 10 would be removed for the analysis. The third hypothesis stated that balance among the needs has a unique relation with well-being, independent of general need satisfaction. To test the hypothesis, the model from the second hypothesis was re-conducted with the balance score added as another independent variable. VIF's above 10 again indicated multicollinearity and would have been removed.

Results

Descriptive statistics

Table 1. contains the means and standard deviations of all three questionnaires and the computed balance score, measuring the difference among the three need satisfaction scores. First, the three needs exhibited high similarity. The needs autonomy (M = 3.86, SD = .51), competence (M = 4.08, SD = .43) and relatedness (M = 3.76, SD = .51) had similar means and standard deviations. This similarity can be observed in two further aspects: First, the needs were moderately to strongly correlated with each other (r = .41; r = .44; r = .55). Second, the balance score had a very high mean (M = 6.77, SD = .83) with a maximum of 8, which indicates that work related need satisfaction is very well balanced among respondents in this sample. Looking further into the balance score, correlation analysis revealed on one side that autonomy was weakly positive correlated (r =.21) to balanced need satisfaction and relatedness (r = .34) moderately positive. On the other side, being competent was moderately negative correlated (r = -.33) with balance.

Looking at well-being measurements, satisfaction with life and positive affect behaved very similarly in this sample. Both scales satisfaction with life (M = 5.49, SD = 1) and positive affect (M = 5.42, SD = .75) were scored similarly high on the 7-point likert scale, around 1.5 away from the maximum of 7. The two scales were also moderately related to each other (r = .41). In contrast to the other two scales, negative affect scores were scored on the other end of the 7-point likert scale (M = 2.53, SD = .91), even though they were around 2.5 away from the minimum. Correlating negative affect with satisfaction with life and positive affect, the analysis revealed satisfaction with to be significantly related only, with a moderate correlation (r = -.33).

Table 1. *Means, standard deviations and correlations among the questionnaires*

	Scale	M	SD	1.	2.	3.	4.	5.	6.
Need Satisfaction									
1.Autonomy	1-5	3.86	.51	__					
2.Competence	1-5	4.08	.43	.55**	__				
3.Relatedness	1-5	3.76	.51	.41**	.44**	__			
4.Balance score	1-8	6.77	.83	.21*	-.33**	.34**	__		
Well-being									
5. Life satisfaction	1-7	5.49	1.00	.29**	.34**	.34**	.05	__	
6. Positive affect	1-7	5.42	.75	.30**	.38**	.30**	-.03	.41**	__
7. Negative affect	1-7	2.53	.91	-.31**	-.27*	-.22*	-.13	-.33**	-.18

*p < .05. **p < .01 (two tailed).

Hypothesis testing

Hypothesis 1. The first hypothesis stated that need satisfaction has a positive relation with subjective well-being. Table 1. showed that all three needs had a significant positive correlation with all three parts of subjective well-being. Satisfaction with life and positive affect showed similar strongly significant correlations with the three basic needs. Satisfaction with life was weakly correlated with autonomy (r = .29) and moderately correlated with competence and relatedness (r = .34). Positive affect was moderately correlated with autonomy (r = .30), competence (r = .38) and relatedness (r = .30). Negative affect was negatively correlated to the needs. Besides being negative, the correlations were less strong than the correlations of satisfaction with life and positive affect with the needs. Competence and relatedness were weakly related to negative affect (r = -.27; r = -.22). Autonomy had a moderate relation to negative affect (r = -.31). All three needs were significantly related to the three well-being measurements. The first hypothesis was thereby confirmed.

Hypothesis 2. The hypothesis stated that each need has a unique relation with well-being. The multiple regression analyses in Table 2 under Step 1 show the models for this hypothesis. All the VIF scores were below 3 which indicated that there was no multicollinearity among the independent variables. The three needs made for 15 percent of the variance in satisfaction with life and positive affect scores. The model for negative affect was weaker with need satisfaction explaining 9 percent of the variance in negative affect. Controlling for the other needs, each need was significantly unique related to one of the well-being scales. The need for relatedness was uniquely positive related to satisfaction with life, the need for competence with positive affect and autonomy negatively with negative affect. The hypothesis was thereby partly confirmed.

Table 2. Standardized coefficients beta from the multiple regression analysis of satisfaction with life (SWL), positive (PA) and negative affect (NA) on competence, autonomy and relatedness (Step 1) and the balance score (Step 2)

	SWLS		PA		NA	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Autonomy	.09	.07	.09	.10	-.26*	-.21
Competence	.19	.23	.26*	.24	-.02	-.10
Relatedness	.22*	.20	.15	.16	-.11	-.06
Balance		.05		-.02		-.09
R^2 square	.15**	.14**	.15**	.15**	.09**	.08**

*$p < .05$. **$p < .01$ (two tailed).

Hypothesis 3. According to the third hypothesis, balanced need satisfaction would predict well-being, independent of need satisfaction. Adding balance to the model, VIF‘s were still below 3 for all three models. The analyses presented in Table 2. Step 2 showed that balanced need satisfaction did not have a unique relation with any of the three subjective well-being measurements. Interestingly, when balance was added to the model the beta coefficients of competence increased especially for negative affect from Step 1 (= -.02) to Step 2 (= -.10) while the other related even less to subjective well-being. Still, balanced satisfaction of the needs did not have any uniquely significant relation with subjective well-being and the third hypothesis was thereby rejected.

Discussion

This research first aimed to reconfirm the link between work related need satisfaction and general subjective well-being in the context of SDT (Ryan & Deci, 2000). In line with earlier research (Baard et al., 2004; Gillet et al., 2012; van den Broeck et al., 2010) there was a link found between work related need satisfaction and general subjective well-being. All three needs were found to be related to all three parts of subjective well-being. The three needs were yet less strong related to negative affect than to the positive affect and satisfaction with life. This is in line with earlier general need satisfaction research among residents in the geriatric care (Custers, Westerhof, Kuin, & Riksen-Walraven, 2010; Kloos et al., 2018) that found the link between general need satisfaction and negative affect to be less strong than the link with satisfaction with life.

Looking at unique relations, nurses in the residential care felt particularly satisfied with life when they felt related to their colleagues at work. This might be due to the fact that being a nurse is a very social job in general. People with this career might define their satisfaction with life more in the light of their relationships. In that sense, nurses would feel more satisfied with life when they were related to their colleagues at work. Nurses who felt competent at work also felt more positive emotions. That might be because positive affect and success are closely related to each other (Lyubomirsky, King, & Diener, 2005). The authors found that not only lead the experience of positive emotions to success but the effect exists the other way round as well. Ruble, Dalrymple and McGrew (2012) explain in their book that success leads to a feeling of competence which might explain the correlation between competence and positive affect. So the link between positive affect and success might explain that competent nurses feel more positive emotions. Last, nurses who felt autonomous at work

would also experience fewer negative emotions. Stress and burn-out research at work indicated that autonomy is a key factor in reducing stress and preventing burn-out (Karasek et al., 1998; Bakker, Demerouti & Euwema, 2005; Constable & Russell, 1986). As stress is closely related to negative affect (Watson, Clark, & Tellegen, 1988), that might be a possible explanation that nurses who feel autonomous at work also experience less negative emotions.

Last, this study aimed to test the balance hypothesis in a work setting. Balanced need satisfaction was not related to nurses well-being. It was still interesting that competence, which had a negative correlation with balance, became stronger related to well-being when the model controlled for balance. In contrast to this research, earlier research on balance was able confirm the link between balance and well-being(Sheldon & Niemiec, 2006; Sheldon et al., 2009; Kloos et al., 2018). Yet, the balance scores in this particular sample were very high with little variance. The fact that nurses had very little variability in their need satisfaction profiles might have led to the result that the relation was not measurable in this sample.

Earlier literature (Vallerand, 1997; van den Broeck et al., 2010) discussed the mixture of general and domain specific measurement tools in SDT research. They found that work related need satisfaction is less strongly related to general well-being than to the more domain specific work related well-being. The models built from two domain specific measurement tools will be a lot stronger as there are less other variables explaining the variance of well-being.

Another weakness of this study lies in the work related basic need satisfaction scale used for this particular sample. The need for relatedness mainly describes the feeling of a worker to be related to colleagues. For nurses or other careers that include the relationship

with clients, the scale might has to be adjusted so that it also includes the relationship with clients that might add to the feeling of relatedness.

The last weakness concerns the modified differential emotions scale (mDes) that was used to measure both positive and negative affect in this study. The subscale for positive affect consisted of five items. The item 'moved' impaired the internal consistency of the scale and the scale was a lot more reliable without it. It was kept because the scale was still acceptably reliable with it and the theoretical construct should not be decreased by taking out one out of five items. This still raises questions of the usability of this particular subscale.

Despite the limitations, this study provides knowledge about the well-being and the role of the basic psychological needs within the workspace of nurses in the residential care. It was the first to test the unique relation between the work related needs and the general subjective well-being of nurses in the residential care. Furthermore, it was the first time that the relation of balanced need satisfaction and well-being was tested within the work field. The outcomes provide implications for both further research in the field of self-determination theory (Ryan & Deci, 2000) and the application at work in the residential care to enhance nurses' well-being. Further research needs to investigate whether the very high balance scores that were found come forth due to this specific caregiver sample, or because the construct of work related need satisfaction is more balanced than the general need satisfaction. Furthermore, it should be considered to use work related well-being scales to create stronger models whose results are more reliable.

This research showed that every work related basic psychological need has a significant role in one component of nurses' well-being. In practice, management in residential care should consider supporting these needs on behalf of their nurses.

Supportiveness of the management plays a major role in strengthening the need for autonomy in nursing homes (Karlsson, Ekman, & Fagerberg, 2009; Mrayyan, 2004). Karlsson and colleagues state that listening to the nurses and providing supervision and competence development plays a key role in the development of autonomy. The need for competence is not just about skills but also about the feeling of the individual to be able to tackle the tasks at work (Van den Broeck et al, 2010). As a consequence, a workload that exceeds the resources of a nurse leads to lowered satisfaction of the need for competence. Seeing that a very high workload is a widespread issue in healthcare sector (Aiken, 2002; Leiter & Maslach, 2009; Lu, While, & Barriball, 2005), employing enough staff is essential to keep the individual workload at tolerable level so that the individual can feel competent.

This study has shown that the three basic psychological needs of autonomy, competence and relatedness play an important role in the well-being of nurses in the residential care. Seeing that there is a constantly rising demand for nurses (Lokkerbol, & Smit, 2013), it should be a central consideration of nursing home management to support the three basic needs among today's nursing staff to keep nurses healthy, prevent turn-over and thereby meet future demands for nurses in the long run.

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