Cognitive job crafting: A new and promising method to redesign your job

A study examining the relationship between cognitive job crafting, authenticity, and employee well-being

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Abstract

The present study has explored the association between cognitive job crafting, authenticity, and employee well-being (i.e., high levels of work engagement and low levels of burnout). In addition, the added value of cognitive job crafting was examined, over and above the contribution of behavioral job crafting. Data were collected among 249 participants, 113 men (45.4%) and 136 women (54.6%). The vast majority of the participants were recruited using the database of Derks & Derks B.V., a consultancy agency for recruitment, selection and assessment, with its focus on the life science industry. The direct effects in this study were examined using simple and multiple regression analyses with bootstrapping (5000 samples). The mediation effects were examined using the PROCESS macro with bootstrapping (5000 samples, Hayes, 2013). Two dimensions of cognitive job crafting were found, namely organization-focused cognitive job crafting and self-focused cognitive job crafting. The results showed that organization-focused cognitive job crafting had added value in predicting employee well-being, over and above the contribution of behavioral job crafting. This relationship was partially being mediated by authenticity. This study adds to the existing literature, underlining the relevance of cognitive job crafting and the importance of further exploring its effects.

Keywords: job crafting, cognitive job crafting, work engagement, burnout, authenticity

Introduction

In today's world, the concept of work is rapidly changing. Self-managing teams, flexible work arrangements, and other organizational innovations are becoming more popular (Demerouti & Bakker, 2014). In order to deal with these changes, jobs need to be redesigned to secure employee motivation and well-being as well as organizational performance. Traditional job redesign approaches represent a top-down process in which the organization changes the job, its tasks, or conditions of the individual (Tims & Bakker, 2010). However, these traditional job redesign approaches have been criticized for no longer reflecting and integrating the dramatic changes in the work contexts (Grant & Parker, 2009; Demerouti & Bakker, 2014). In other words, traditional approaches no longer seem to be effective. Therefore, organizations are focusing on new job redesign approaches with a more bottom-up strategy. These approaches rely on employees to proactively adapt to, and initiate changes in the nature of their jobs (Wang, Demerouti, & Bakker, 2016).

Already recognizing the importance of this proactive attitude of employees, Wrzesniewski and Dutton introduced the concept of job crafting in 2001. They defined job crafting as "the physical and cognitive changes individuals make in the task or relational boundaries of their work" (Wrzesniewski & Dutton, 2001). With this definition, three different forms of job crafting were distinguished. *Task crafting* refers to the changes that employees make to their tasks (e.g., adding or dropping tasks, altering the nature of their tasks, or changing the amount of time and energy spend on specific tasks) (Berg, Dutton, & Wrzesniewski, 2013). *Relational crafting* refers to changes in the quality and amount of interaction with others at work. Finally, *Cognitive crafting* refers to changing the way employees perceive their jobs (Nielsen, Simonsen, & Abildgaard, 2012). By proactively crafting a job in any of these ways, employees can create a better fit between the characteristics of their job and their personal preferences and abilities (Wang, Demerouti, & Bakker, 2016; Wrzesniewski & Dutton, 2001). In turn, this may cause lower levels of strain and stress and higher levels of well-being (Van Bosch & Taris, 2014).

Current research in the field of job crafting is mainly focused on the definition of Tims, Bakker, and Derks (2012) which focuses on physical forms of job crafting. Based on the job demands-resources (JDR) model, they defined Job crafting as: "the changes employees may make to balance their job demands and job resources with their personal abilities and needs". Studies using this definition of job crafting have found several positive effects for both the employees as well as for organizations (Tims et al., 2012; Van den Bosch & Taris, 2014a). However, because cognitive crafting was excluded from the definition of Tims et al. (2010), less is known about the effects of this particular type of job crafting.

The purpose of the present study is to further explore the effects of cognitive job crafting and to examine the added value of the cognitive dimension in job crafting as a whole. Therefore, this study will make a distinction between cognitive job crafting and job crafting as it was defined by Tims et al. (2012). The latter will be referred to as behavioral job crafting. Although there is still little research on the effects of job crafting, multiple positive effects of behavioral job crafting were already found. For example, earlier studies found positive effects of job crafting on well-being, as it can be associated with low levels of burnout (Tims, Bakker, & Derks, 2012) and high levels of work engagement (Van den Bosch & Taris, 2014a). This study will examine the association between cognitive job crafting and employee well-being.

In addition, the relationship between cognitive job crafting and authenticity will be explored. Although only few studies examined this relationship before, a positive association between behavioral job crafting and authenticity was suggested (Van den Bosch & Taris, 2014a). It was also found that authenticity is positively associated with well-being, suggesting a mediation effect of authenticity in the relationship between job crafting and well-being (Van den Bosch & Taris, 2014a). Therefore, this study will explore the mediation effect of authenticity between cognitive job crafting and well-being. In conclusion, this study will shed more light on the positive effects of cognitive job crafting. In the future, cognitive job crafting might be used to increase employee well-being through increased levels of work engagement and lower levels of burnout.

Job crafting

As stated before, job crafting is a proactive behavior that employees could use to increase their person-environment (PE) fit (Wrzesniewski & Dutton, 2001). The core characteristic of job crafting is that employees proactively adapt to, and initiate changes in the nature of their jobs (Wang, Demerouti, & Bakker, 2016), within the context of their jobs as they are defined by the organization (Brenninkmeijer & Hekkert-Koning, 2015). In the present study, a distinction will be made between cognitive job crafting and behavioral job crafting.

Behavioral job crafting refers to job crafting as it was defined by Tims et al. (2010). The definition is based on the JDR model which describes work in the context of job demands and job resources (Tims & Bakker, 2010; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). In this model, job demands are described as the aspects of a job that require physical or mental effort and are associated with physiological and psychological costs. Job resources are described as the aspects of the job that may help achieve goals, reduce job demands, and stimulate personal growth and development. (Demerouti et al., 2001). With behavioral job crafting, employees increase or reduce these job demands and job resources to create a better person-job fit (Tims & Bakker, 2010).

Behavioral job crafting consists of four dimensions (Tims, Bakker, & Derks, 2012). *Increasing social job resources* refer to the resources social support, supervisory, coaching, and feedback. The focus of this dimension lies on social aspects of the job and on increasing the satisfactory level of the employee. *Increasing structural job resources* refer to the resources variety, opportunity for development, and autonomy. This dimension focuses on increasing the employee's responsibility and knowledge about the job (Tims et al., 2012). *Increasing challenging job demands* are demands that promote personal growth and stimulate individuals to reach difficult goals (Brenninkmeijer & Hekkert-Koning, 2015). These demands do not deplete one's energy and are related to the realization of goals and increased work motivation (Tims & Bakker, 2010). *Decreasing hindering job demands* are the opposite of challenging job demands and refer to the aspects of a job that exceed the capabilities of employees (Tims & Bakker, 2010). These demands are stressful and hinder personal growth and reaching goals (Brenninkmeijer & Hekkert-Koning, 2015).

Cognitive job crafting refers to the cognitive changes that individuals may make within the boundaries of their work (Wrzesniewski & Dutton, 2001). It consists of an employee's efforts to perceive and interpret tasks and relationships, or their job as a whole in a way that changes the significance of their work (Wrzesniewski, LoBuglio, Dutton, & Berg, 2013). In contrast to behavioral job crafting, cognitive job crafting does not imply making actual physical changes in the characteristics of a job. Instead, cognitive job crafting refers to changing the perception of a job and its characteristics (Niessen, Weseler, & Kostova, 2016). For example: a hospital cleaner who sees his work as an important part of helping people rather than simply cleaning rooms has cognitively crafted his job (Berg, Dutton, & Wrzesniewski, 2008). By reframing the meaning of the job, employees are able to experience their work with greater significance and value and therefore alter their work identity (Berg, Dutton, & Wrzesniewski, 2013). Consequently, the employee's social identity is changed as well (Wrzesniewski & Dutton, 2001). Compared to behavioral job crafting, cognitive job crafting might be less limited by prescribed job designs. Therefore, cognitive job crafting might have the advantage over behavioral job crafting in being easier to apply (Berg, Dutton & Wrzesniewski, 2008).

Berg, Dutton, & Wrzesniewski (2013) proposed three possible ways in which employees may cognitively craft their jobs. By *expanding perceptions*, employees broaden their perceptions of the meaning and purpose of their job by thinking about their job as a whole rather than a set of separate tasks. This way the job is perceived as more meaningful and employees become more motivated. *Focusing perception* is the opposite of expanding perceptions. By focusing perceptions, employees narrow their mental scope to the tasks and characteristics of their job that are most valuable for them. This method is especially useful for employees that dislike a large part of their job. By focusing

on the parts of their job they like, their job becomes more meaningful. In addition, the meaningful parts help employees with getting through the less meaningful parts. Lastly, by *linking perceptions* employees mentally connect specific parts of their job with personal interests or aspects of their identity. This connection leads to an increasement in job meaningfulness (Berg et al., 2013).

Cognitive job crafting and well-being

Several studies found evidence for a positive relationship between behavioral job crafting and employee well-being (i.e., high levels of work engagement and low levels of burnout) (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Tims, Bakker, & Derks, 2012; Tims, Bakker, & Derks, 2013). Work engagement is defined as an enduring, positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). *Vigor* represents high levels of energy and mental resilience, the willingness to invest effort, and endurance when difficulties occur. *Dedication* means being strongly involved, enthusiastic and proud, and experiencing one's work as significant and challenging. *Absorption* refers to being fully concentrated and engaged at work, what causes time to pass quickly (Schaufeli et al., 2006). In contrast, burnout is a negative work related state and can be seen as the opposite of work engagement. It is defined as "a prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach, Schaufeli, & Leiter, 2001). It is divided into three different dimensions: emotional exhaustion, cynicism and inefficacy. *Emotional exhaustion* can be seen as its core component and refers to feelings of overextension, emptiness, and depletion of mental resources (Seidler et al., 2014; Maslach et al., 2001; Van den Bosch & Taris, 2014a).

Although evidence was found for the positive effects of behavioral job crafting, only some studies explored the effects of the cognitive dimension of job crafting. Slemp and Vella-Brodrick (2013) suggested that cognitive job crafting may be closely related to the meaning of work and to work identity. Cognitive job crafting "allows employees to appreciate the broader effects of their work and to recognize the value that their job may hold in their life" (Slemp & Vella-Brodrick, 2013, p. 128). In other words, when employees change the perception of their work, creating a better person-job fit, a stronger positive work-identity and increased meaning of work could be created. Van Beek, Hu, Schaufeli, and Taris (2012) found that employees who experience a strong person-job fit are more intrinsically motivated and experience high levels of work engagement. In addition, Borritz et al. (2005) found that low meaning of work is related to burnout. As work identity and the meaning of work are both related to high levels of work engagement and low levels of burnout, cognitive job crafting might have an important role in predicting employee well-being (Van Beek, Hu, Schefeli, Taris, and Schreurs, 2012; Wrzesniewski & Dutton, 2001). It is expected that cognitive job crafting is positively associated with work engagement and negatively associated with burnout.

H1a: Cognitive job crafting has a positive association with work engagement.

H1b: Cognitive job crafting has a negative association with burnout.

Cognitive job crafting is different from behavioral job crafting in that it involves altering one's perception of the job rather than altering physical aspects of the job. As stated before, cognitive job crafting might be stronger related to work identity and the meaning of work than behavioral job crafting. This indicates that the two dimensions affect different aspects of the job and might have different effects and motives (Slemp & Vella-Brodrick, 2013). Moreover, Slemp, and Vella-Brodrick (2013) expect that cognitive job crafting could be implemented more quickly and more easily than behavioral job crafting, as it costs less physical effort. Therefore, it is expected that cognitive job crafting has added value in predicting well-being over and above behavioral job crafting.

H2a: Cognitive job crafting has added value in predicting work engagement over and above behavioral job crafting.

H2b: Cognitive job crafting has added value in predicting burnout over and above behavioral job crafting.

Cognitive job crafting and authenticity

The present study will also explore the association between cognitive job crafting and authenticity. Authenticity can be defined as a the ability to act in accordance with one's true self (Harter, 2002). As the level of authenticity can vary across different roles (Sheldon et al., 1997), authenticity can be seen as a positive state of mind rather than a personality characteristic or trait (Metin et al., 2016). It consists of three dimensions. *Self-alienation* represents an imbalance between a person's true self and his conscious awareness. This can result in a moment in which employees experience the feeling they are not truly the person who they really are (Van den Bosch & Taris, 2018). The second dimension, *authentic living*, refers to the balance between a person's expressed emotions and behaviors and his personal values, feelings, and beliefs. The final dimension is *external influence*, which refers to the balance between accepting influence of others and the belief of actually meeting others' expectations (Van den Bosch & Taris, 2014b). Being authentic implies that the three dimensions are in balance with one another (Metin, Taris, Peeters, & van Beek, 2016).

As stated above, feelings of authenticity depend on the (work)environment a person is active in (Van den Bosch & Taris, 2014b). If a congruence exists between the employee's values and beliefs and his or her work environment, the employee will feel authentic (Van den Bosch and Taris, 2018). As feelings of authenticity are influenced by the work environment, altering the work environment might increase or decrease the level of authenticity. Cognitive job crafting changes the perception

and meaning of specific tasks or the job as a whole. Doing so (e.g., by expanding or linking perceptions), those tasks are being reframed to create a better fit with one's own core values and ideas (Berg, Dutton, & Wrzesniewski, 2013). In other words, cognitive job crafting may increase an employee's PE-fit (Wrzesniewski & Dutton, 2001). An increased PE-fit means a stronger congruence between the work environment and a person's core values and thus increased levels of authenticity (Van den Bosch and Taris, 2014b). Therefore, a positive association between cognitive job crafting and authenticity is expected.

H3: Cognitive job crafting is positively associated with authenticity.

Authenticity and well-being

Previous research suggested a positive association between authenticity and well-being (i.e., low levels of burnout and high levels of work engagement) (Van den Bosch & Taris, 2014a; Metin et al., 2016). As stated before, levels of authenticity can vary across different roles or functions (Sheldon et al., 1997). It depends on the congruence between employees and the specific environment they are active in (Van den Bosch & Taris, 2014b). Van Beek, Hu, Schefeli, Taris, and Schreurs (2012) found that employees who experience strong congruence between their job and their own values are more intrinsically motivated and engaged in their work. Therefore, a positive association between authenticity and work engagement is expected.

H4a: Authenticity has a positive association with work engagement.

As stated before, burnout can be seen as the opposite of work engagement and is represented by depletion of mental resources. Van den Bosch and Taris (2014a) found that employees who experience high levels of authenticity will feel comfortable and energetic at their jobs, and will not lose energy in pretending to be someone else (Van den Bosch & Taris, 2014a). Therefore, employees will experience lower levels of emotional exhaustion resulting in lower levels of burnout. A negative association between authenticity and burnout is expected.

H4b: Authenticity has a negative association with burnout.

In summary, a positive association between cognitive job crafting and authenticity is expected, as well as a positive associating between authenticity and employee well-being (i.e., high levels of work engagement and low levels of burnout). Therefore, authenticity is expected to have a mediating effect in the relation between cognitive job crafting and employee well-being.

H5a: Authenticity mediates the relationship between cognitive job crafting and work engagement.

H5b: Authenticity mediates the relationship between cognitive job crafting and burnout.

Method

Procedure

In the present study, data were collected via an online questionnaire which was distributed by Derks & Derks B.V. via email and LinkedIn. The questionnaire was distributed via additional social media channels by the researchers themselves. The questionnaire began with a small introduction to stress the confidentiality and anonymity of the participants. After agreeing to the informed consent, the questionnaire started. Participants could respond between the 28th of March 2019 and the 1st of May 2019 (a total of 35 days).

Participants

360 participants started the questionnaire of which 104 were removed for not completing it. In addition, seven participants were removed for having less than 12 contract hours. Therefore the research population consisted of 249 participants, 113 men (45.4%) and 136 women (54.6%). The age of the participants ranged from 22 to 66 years with an average of 44.16 (SD = 11.98). The vast majority of the participants was highly educated (91.2%) and 57.4% of the participants were working in the life science industry. A total of 160 of the participants were reached via Derks & Derks B.V. More detailed descriptive statistics of the participants are shown in Table 1.

Table 1

Educational level, branches and function group of the research population (N=254)

Category	Options	% of the participants
Education	Primary school	0
	MAVO, LBO, VMBO	0.4
	HAVO, MBO	6.8
	VWO	1.6
	Higher Vocational Education	39.4
	University	51.8
Branch	Food industry	4.8
	Pharmaceutical/Biotechnology industry	30.1
	Healthcare	18.1
	Medical devices	4.4
	Different	41.0

	Non-applicable	1.6
Function group	QA/regulatory affairs	10.4
	Sales/Marketing	14.1
	Medical expert	2.8
	IT	2.4
	Human Resource Management (HRM)	12.0
	Purchase	1.6
	Finance	1.2
	Administrative	3.6
	Planning/Logistics	3.2
	Research and Development (R&D)	4.0
	QC/Laboratory	1.6
	Management	19.7
	Different	22.9
	Non-applicable	0.4

Measures

The questionnaire contained 85 item. Among other constructs, the questionnaire measured: cognitive job crafting, behavioral job crafting, authenticity, emotional exhaustion, and work engagement.

   Cognitive job crafting was measured with a newly composed, 12-item scale. The new scale was constructed with seven items from the questionnaire of IJbema & Brenninkmeijer (2018) and five items from the questionnaire of Slemp & Vella-Brodrick (2013). The constructed scale was measured on a five-point Likert scale ranging from "never" (1) to "very often" (5). To validate the scale, a factor analysis with Oblimin rotation method and Kaiser Normalization was used. Three factors were discovered, explaining 63.7% of the variance. The third factor was represented by only two items, item 11 and item 12. Because these items were the only items that were formulated in the past tense, they were deleted. Therefore two factors remained. Item 6 and item 9 loaded on both factors and were deleted as well. The final scale consisted of eight items. The two factors that were discovered were named organization-focused cognitive job crafting (α=.79) and self-focused cognitive job crafting (α=.78). The final scale explained 62.9% of the variance. Factor loadings are reported in Table 2 (Appendix A).

   Behavioral job crafting mas measured using the job crafting scale of Tims, Bakker, and Derks (2012). The scale consists of 21 items and is measured on a five-point Likert scale ranging from "never" (1) to "very often" (5). Based on the JD-R model, the questionnaire measures four

dimensions: increasing social job resources (α=.77), increasing structural job resources (α=.73), increasing challenging job resources (α=.66) and decreasing hindering job demands (α=.75). Against expectation, a factor analysis with Oblimin rotation method and Kaiser Normalization indicated loadings on five factors, explaining 56.3% of the variance. Item 1 and item 7 represented the fifth factor and were therefore deleted. In addition, items 5 and 10 were removed for loading on a different factor than intended. After deleting these items, four factors remained, explaining 55.9% of the variance. The reliability of the dimensions 'increasing social job resources', 'increasing structural job resources' and 'increasing challenging job demands' changed respectively to α=.73, α=.82 and α=.69. The factor loadings per item are reported in Table 3 (Appendix B).

      Authenticity was measured using the Individual Authenticity Measure at work (I.A.M. Work) developed by Van den Bosch and Taris (2014). This twelve-item questionnaire measures three dimensions, Authentic living (α=.66), self-alienation (α=.89) and accepting external influences (α=.73), explaining 63.6% of the variance. Cronbach's alpha of the total scale was α=.83. All items were measured on a five-point Likert scale ranging from "never" (1) to "very often" (5).[1]

      Burnout was measured using the *Utrechtse Burnout Schaal* (UBOS, Schaufeli & Van Dierendonk, 2000), which is the Dutch version of the Maslach Burnout Inventory-General Survey (MBI-GS, Schaufeli, Leiter, Maslach & Jackson, 1996). The original UBOS consists of sixteen items that measure three dimensions. In the present study, only the five items of the dimension emotional exhaustion were used (α=.94). The items were measured on a seven-point Likert scale ranging from "never" (0) to "always" (6).

      Work engagement was measured using the Utrecht Work Engagement Scale (UWES, Schaufeli, Bakker & Salanova, 2006). The UWES consists of nine items, which are measured on a seven-point Likert scale ranging from "never" (0) to "always" (6). Cronbach's alpha of the scale was α=.92.

Statistical analysis

In this study, data was analyzed using SPSS version 25.0. Before analyzing the data, assumptions regarding outliers, normality, linearity, homoscedasticity, and multicollinearity were evaluated and met. The direct effects in this study were examined using simple and multiple regression analyses with bootstrapping (5000 samples). The mediation effects were examined using the PROCESS macro with bootstrapping (5000 samples, Hayes, 2013). With the bootstrapping method, multiple samples are created from the original data set. This way, more statistical power is created.

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[1] The original scale is measured on a seven-point Likert scale ranging from "never" (1) to "very often" (7).

Results

Descriptives

Descriptives regarding means, standard deviations, and intercorrelations of the studies variables are presented in Table 4. As can be seen, the cognitive job crafting scale has a higher mean compared to the behavioral job crafting scale. The subscales of the cognitive job crafting scale are both higher compared to the subscales of the behavioral job crafting scale as well, with the exception of the subscale increasing structural job resources. Worth mentioning is that a larger difference was expected comparing the means of work engagement and burnout, as the two variables can be seen as the opposite of each other.

Table 4 also shows the intercorrelations between the variables used in this study. All variables were significantly correlated to the outcome variable work engagement. The outcome variable burnout had no significant correlations with the total job crafting scales and with the subscales self-focused cognitive job crafting and increasing social job resources. The same result was found for authenticity.

Table 4

Means, standard deviations and intercorrelations between variables.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Cognitive job crafting	3.48	0.65		.838**	.863**	.468**	.361**	.050	.422**	.119		.430**	-.047
2. Organization focused cognitive job crafting	3.55	0.74			.447**	.406**	.416**	.288**	-.048	.486**	.278**	.513**	-.148*
3. Self-focused cognitive job crafting	3.40	0.80				.391**	.333**	.325**	.126*	.242**	-.062	.230**	.060
4. Behavioral job crafting	2.78	0.43					.583**	.763**	.479**	.687**	.014	.220**	-.053
5. Increasing structural job resources	3.76	0.78						.438**	-.159	.499**	.186**	.389**	-.249**
6. Increasing social job resources	2.74	0.73							.141*	.402**	.026	.214**	-.059
7. Decreasing hindering job demands	2.03	0.59								-.059	-.255**	-.183**	.204**
8. Increasing challenging job demands	3.26	0.72									.186**	.280**	-.161*
9. Authenticity	3.78	0.58										.476**	-.551**
10. Work engagement	2.91	1.35											-.416**
11. Burnout	1,4	1.22											

Note. N=249, *p<.05, **p<.01

Cognitive job crafting and well-being

For testing Hypothesis H1a (Cognitive job crafting has a positive association with work engagement), a multiple regression analysis with bootstrapping (5000 samples)[2] was performed for organization-focused and self-focused cognitive job crafting (see Table 5). Together, the two subscales explained 26% of the variability in work engagement (R^2=.26, F(2, 246)=43.92, p<.01). A positive association was found between organization-focused cognitive job crafting and work engagement (b=.938, p<.01). However, no association was found between self-focused cognitive job crafting and work engagement. Therefore, Hypothesis H1a was only supported for organization-focused cognitive job crafting.

Hypothesis H1b (Cognitive job crafting has a negative association with burnout) was tested using a second multiple regression analysis for organization-focused and self-focused cognitive job (see Table 5). In combination, the two subscales accounted for a significant 4% of the variability in burnout (R^2=.042, F(2,246)=5.36, p<.01). A negative association was found between organization-focused cognitive job crafting and burnout (b=-.361, p<.01). Against expectation, a positive association was found between self-focused cognitive job crafting and burnout (b=.241, p<.05). As a negative association with burnout was expected for both subscales, Hypothesis H1b was only supported for organization-focused cognitive job crafting.

Table 5

Unstandardized (B) regression coefficient and explained variance (R^2) for each predictor in a multiple regression model with bootstrapping (5000 samples) predicting work engagement, burnout, and authenticity (N=249)

	Work engagement		Burnout	
Variable	*B* [95% CI]	SE	*B* [95% CI]	SE
Organization-focused cognitive job crafting	.938 [.708, 1.157]**	.113	-.361 [-.578, -.148]**	.109
Self-focused cognitive job crafting	.001 [-.230, .249]	.120	.241 [.035, .432]*	.101
Authenticity	1.115 [.885, 1.372]**	.123	-1.165[-1.390, -.900]**	.124

Note. CI = confidence interval. *p <.05. **p <.01.

Hypothesis H2a (cognitive job crafting has added value in predicting work engagement over and above behavioral job crafting) was tested using a hierarchical multiple regression analysis (see Table 6). Step one contained the four behavioral job crafting subscales, which accounted for a

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[2]Bootstrapping (5000 samples) was used in all analyses in this study.

significant 18% of the variability in work engagement (R^2=.180, F(4, 244)=13.38, p<.01). On step two, both subscales of cognitive job crafting were added to the regression model. Together, organization-focused and self-focused cognitive job crafting accounted for an additional 14% of the variability in work engagement (ΔR^2=.141, ΔF(2,242)=25.01, p<.01). Significant associations with work engagement were found only for increasing structural job resources (b=.337, p=.008), decreasing hindering job demands (b=-.315, p<.01), and organization focused cognitive job crafting (b=.820, p<.01). No significant effects were found for increasing social job resources, increasing challenging job resources, and self-focused cognitive job crafting. Because no significant effect was found for self-focused cognitive job crafting, Hypothesis H2a was only supported for organization-focused cognitive job crafting.

Table 6

Unstandardized (B) regression coefficient, standard error (SE), and squared semi-partial correlations (sr²) for each predictor variable on each step of a hierarchical multiple regression model with bootstrapping (5000 samples) predicting work engagement (N=249)

	Model 1		Model 2	
Variable	*B* [95% CI]	*SE*	*B* [95% CI]	*SE*
Increasing structural job resources	.496 [.219, .753]**	.138	.337 [.078, .571]**	.126
Increasing social job resources	.123 [-.123, .380]	.129	.088 [-.150, .333]	.124
Decreasing hindering job demands	-.321 [-.606, -.041]*	.143	-.315 [-.567, -.073]**	.125
Increasing challenging job demands	.192 [-.086, .472]	.144	-.107 [-.373, .165]	.139
Organization-focused cognitive job crafting			.820 [.577, 1.051]**	.122
Self-focused cognitive job crafting			-.033 [-.272, .221]	.126

Note. CI = confidence interval. *p <.05. **p <.01.

Hypothesis H2b (cognitive job crafting has added value in predicting burnout over and above behavioral job crafting) was also tested with a hierarchical multiple model (see table 7). Step one contained the four behavioral job crafting subscales, which explained a significant 9% of the variability in burnout (R^2=.093, F(4, 244)=6.24, p<.01). On step 2, organization focused cognitive job crafting and self-focused cognitive job crafting were added to the equation, which explained an additional 2% of the variability in burnout (ΔR^2=.023, ΔF(2,242)=3.17, p<.05). Significant associations with burnout were found for increasing structural job resources (b=-.356, p<.01), decreasing hindering job demands (b=.285, p<.05), and self-focused cognitive job crafting (b=.264, p<.05). No significant associations were found for increasing social job resources, increasing challenging job

resources, and organization focused cognitive job crafting. As only self-focused cognitive job crafting has added value in predicting burnout, Hypothesis H2b was only supported for self-focused cognitive job crafting.

Table 7

Unstandardized (B) regression coefficient, standard error (SE), and squared semi-partial correlations (sr²) for each predictor variable on each step of a hierarchical multiple regression model with bootstrapping (5000 samples) predicting burnout (N=249)

	Model 1		Model 2	
Variable	B [95% CI]	SE	B [95% CI]	SE
Increasing structural job resources	-.325 [-.628, -.021]*	.155	-.356 [-.645, -.062]*	.149
Increasing social job resources	.055 [-.218, .335]	.140	.015 [-.260, .308]	.143
Decreasing hindering job demands	.336 [.051, .622]*	.145	.285 [.015, .558]*	.139
Increasing challenging job demands	-.104 [-.402, .171]	.146	-.053 [-.378, .251]	.160
Organization focused cognitive job crafting			-.184 [-.413, .051]	.118
Self-focused cognitive job crafting			.264 [.048, .468]*	.107

Note. CI = confidence interval. *$p <.05$. **$p <.01$.

Cognitive job crafting and authenticity

For testing Hypothesis H3 (cognitive job crafting is positively associated with authenticity), a multiple regression analysis was performed for organization-focused and self-focused cognitive job crafting. In combination, the two subscales accounted for a significant 12% of the variability in authenticity ($R^2=.121$, $F(2, 246)=16.853$, $P<.01$). A positive association between authenticity and organization-focused cognitive job crafting was found (b=.299, p<.01). Against expectation, a negative association was found between authenticity and self-focused cognitive job crafting (b=-.168, p<.01). As both subscales were expected to have a positive association with authenticity, Hypothesis H3 was only supported for organization-focused cognitive job crafting.

Table 8

Unstandardized (B) regression coefficient, standard error (SE), and squared semi-partial correlations (sr²) for each predictor in a multiple regression model with bootstrapping (5000 samples) predicting authenticity (N=249)

Variable	B [95% CI]	SE
Organization-focused cognitive job crafting	.299 [.195, .402]**	.052
Self-focused cognitive job crafting	-.168 [-.265, -.076]**	.048

Increasing structural job resources	.073 [-.049, .190]	.061
Increasing social job resources	-.033 [-.158, .102]	.066
Decreasing hindering job demands	-.220 [-.360, -.085]**	.070
Increasing challenging job demands	.113 [-.033, .258]	.074

Note. CI = confidence interval. *p <.05. **p <.01.

Authenticity and well-being

Hypothesis H4a (authenticity has a positive association with work engagement) and Hypothesis H4b (authenticity has a negative association with burnout) were tested using simple regression analyses. In line with both hypotheses, a positive association was found between authenticity and work engagement (*b*=.1.115, *p*<.01) and a negative association was found between authenticity and burnout (*b*=-1.165, *p*<.01). Authenticity accounted for a significant 23% of the variability in work engagement (R^2=.227, F(1, 247)=72.498, P<.01) and for a significant 30% of the variability in burnout (R^2=.301, F(1, 247)=107.648, P<.01). Hypothesis H4a and Hypothesis H4b were therefore both confirmed (see Table 5).

The mediation effect of authenticity was examined using the PROCESS macro for mediation (Hayes, 2013). Hypothesis H5a predicted that authenticity would mediate the relationship between cognitive job crafting and work engagement. Table 9 shows that authenticity partially mediates the relationship between organization-focused cognitive job crafting and work engagement (*b*=.184, *p*<.05), increasing structural job resources and work engagement (*b*=.135, *p*<.05), and increasing challenging job demands and work engagement (*b*=.153, *p*<.05). Additionally, the relationship between decreasing hindering job demands and work engagement was fully mediated by authenticity (*b*=-.289, *p*<.05). No mediation effect was found for self-focused cognitive job crafting and increasing social job resources. Hypothesis H5a was therefore supported with the exception of the subscales self-focused cognitive job crafting and increasing social job resources.

Hypothesis H5b predicted that authenticity would mediate the relationship between cognitive job crafting and burnout. As Table 9 illustrates, authenticity fully mediates the relationship between organization-focused cognitive job crafting and burnout (*b*=-.254, *p*<.05), decreasing hindering job demands and burnout (*b*=.281, *p*<.05), and increasing challenging job demands and burnout (*b*=-170, *p*<.05). The relationship between increasing structural job resources and burnout was partially mediated by authenticity (*b*=-.152, *p*<.05). No mediation effect was found in the relationship between self-focused cognitive job crafting and burnout, and between increasing social

job resources and burnout. Hypothesis H5b was therefore supported with the exception of the

subscales self-focused cognitive job crafting and increasing social job resources.

Table 9

Total, direct, and indirect effect for each predictor in a PROCESS macro for mediation with bootstrapping (5000 samples), examining the mediation effect of authenticity in the relationship between job crafting and work engagement and between job crafting and burnout (N=249)

	Work engagement		Burnout	
	b	95% CI	*b*	95% CI
Organization-focused cognitive job crafting				
Total effect	.938**	[.741, 1.135]	-.244*	[-.449, -.039]
Direct effect	.754**	[.567, .942]	.010	[-.171, .190]
Indirect effect	.184*	[.094, .282]	-.254*	[-.398, -.125]
Self-focused cognitive job crafting				
Total effect	.389**	[.182, .595]	.092	[-.099, .283]
Direct effect	.440**	[.261, .619]	.040	[-.120, .201]
Indirect effect	-.051	[-.160, 0.57]	.052	[-.058, .163]
Increasing structural job resources				
Total effect	.674**	[.474, .874]	-.391**	[-.581, .200]
Direct effect	.539**	[.357, 722]	-.238**	[-.403, -.074]
Indirect effect	.135*	[.036, .236]	-.152*	[-.284, -.034]
Increasing social job resources				
Total effect	.393**	[.168, .619]	-.099	[-.307, .109]
Direct effect	.371**	[.173, .569]	-.075	[-.250, .099]
Indirect effect	.022	[-.078, .131]	-.024	[-.142, 0.83]
Decreasing hindering job demands				
Total effect	-.418**	[-.700, -.136]	.422**	[.168, .676]
Direct effect	-.150	[-.410, .111]	.140	[-.083, .364]
Indirect effect	-.289*	[-.435, -.127]	.281*	[.135, .446]
Increasing challenging job demands				
Total effect	.525**	[.300, .751]	-.273*	[-.482, -.063]
Direct effect	.372**	[.167, .577]	-.102	[-.283, .078]
Indirect effect	.153*	[.030, .280]	-.170*	[-.329, -.035]

Note. CI = confidence interval. *p <.05. **p <.01.

Discussion

The purpose of this study was to further explore the effect of cognitive job crafting by examining its associations with authenticity and well-being (i.e., high work engagement and low levels of burnout). Furthermore, this study examined the added value of the cognitive dimension in job crafting as a whole. The associations were tested among 249 participants. Participants were recruited via Derks & Derks B.V., a consultancy agency for recruitment, selection and assessment, with its focus on the life science industry.

Cognitive job crafting

As most research in the field of job crafting has been focused on behavioral job crafting, less is known about the cognitive form of job crafting. In this study, cognitive job crafting was measured using a newly composed scale from combining the scale of IJbema & Brenninkmeijer (2018) with the scale of Slemp & Vella-Brodrick (2013). A factor analysis then indicated that a distinction could be made between two new cognitive job crafting subscales, namely organization-focused cognitive job crafting and self-focused cognitive job crafting. Organization-focused cognitive job crafting refers to the efforts employees may make to perceive and interpret tasks, relationships, or their job as a whole in a way that changes the significance of their work which is beneficial for the organization. With organization-focused cognitive job crafting, a job is defined as valuable for the organization ('I think about how my job contributes to the organization as a whole'). Self-focused cognitive job crafting refers to the efforts that employees may make to perceive and interpret tasks, relationships, or their job as a whole in a way that changes the significance of their work which is beneficial for their own personal state and welfare. In contrast to organization-focused cognitive job crafting, the job can be defined as valuable for the employees themselves ('I think about how my work gives my life meaning').

Furthermore, the results of this study indicated that people tend to use cognitive job crafting more than they use behavioral job crafting. An explanation given by Berg, Dutton, and Wrzesniewski (2008) is that cognitive job crafting is less limited by prescribed job designs and is therefore easier to apply. This underlines the relevance of the cognitive form of job crafting and the added value of this and other studies on this topic.

Cognitive job crafting and well-being

In Hypothesis H1a it was expected that cognitive job crafting would have a positive association with work engagement. As was predicted, a positive association with work engagement was found for organization-focused cognitive job crafting. This finding is in line with the expectation that cognitively

crafting a job creates a stronger person-job fit by changing the work identity and meaning of work (Slemp & Vella-Brodrick, 2013). In turn, employees become more intrinsically motivated and are more engaged in their work (Van Beek, Hu, Schaufeli, Taris, and Schreurs, 2012). In addition, no association was found between self-focused cognitive job crafting, despite a significant correlation with engagement in the correlation matrix (r=.23). However, due to the strong correlation between organization-focused and self-focused cognitive job crafting, a problem with multicollinearity is expected. Multicollinearity exists when two predicters are strongly correlated and means that there is conceptual overlap between the predictors. This could affect the outcomes of the regression model (Field, 2013). In this case, the conceptual overlap between organization-focused and self-focused cognitive job crafting might have affected the regression model, resulting in a non-significant association between self-focused cognitive job crafting and work engagement.

Hypothesis H1b predicted that cognitive job crafting would be negatively associated with burnout. In line with this prediction, a negative association was found between organization-focused cognitive job crafting and burnout. This might be caused by positively changing the meaning of work; as a positive meaning of work is negatively associated with burnout (Slemp & Vella-Brodrick, 2013; Borritz et al., 2005). Although self-focused cognitive job crafting had no significant correlation with burnout, a positive association was found between self-focused cognitive job crafting and burnout in the regression model. Again, this result could have been caused by multicollinearity and the contextual overlap between the two cognitive job crafting subscales (Field, 2013). Another possible explanation is that the relationship between self-focused cognitive job crafting and burnout is reversed and that self-focused cognitive job crafting is rather a coping mechanism than a predictor of burnout. This corresponds with the suggestion of Tims and Bakker (2010) who defined cognitive job crafting as coping mechanism as individuals make no actual physical changes, but rather adjust their perspective on their job.

The results of this study partly supported hypothesis H2a, since organization-focused cognitive job crafting had added value in predicting work engagement, over and above the contribution of behavioral job crafting. This result corresponds with the conceptualization of job crafting by Wrzesniewski and Dutton. They suggested that cognitive job crafting and behavioral job crafting are of equal importance in changing the meaning of work, creating a better person-job fit and therefore increasing work engagement. Furthermore, self-focused cognitive job crafting had no added value in predicting work engagement in comparison to behavioral job crafting. This is in line with the outcome of Hypothesis H1a where no association was found between self-focused cognitive job crafting and work engagement. This could be the result of conceptual overlap between the subscales organization-focused and self-focused cognitive job crafting,

Hypothesis H2b was also partly supported in this study. Although it was very weak, self-focused cognitive job crafting had added value in predicting burnout, over and above the contribution of behavioral job crafting. However, the associating was in the opposite direction of what was expected. A positive association was found, whilst a negative association between self-focused cognitive job crafting and burnout was hypothesized. Again, this study suggests that self-focused cognitive job crafting is rather a coping mechanism than a predictor of burnout, as is in line with Tims and Bakker's (2010) conceptualization of cognitive job crafting. Organization-focused cognitive job crafting had no added value in predicting burnout, besides the contribution of behavioral job crafting.

Cognitive job crafting and authenticity

It was predicted in Hypothesis H3 that cognitive job crafting is positively associated to authenticity. In line with the expectation, a positive associating was found between organization-focused cognitive job crafting and authenticity. This suggests that employees who cognitively craft their job in a way that might be beneficial for the organization, experience a stronger congruence between their job and their true selves. This finding is plausible as cognitive job crafting changes the perception of specific tasks or job as a whole, to align them with one's own core values and ideas, and to create a better PE-fit. (Berg, Dutton, & Wrzesniewski, 2013). Reframing tasks in a way that is congruent with a person's own values and ideas seems likely to have a positive effect on this person's feelings of authenticity.

In addition, a negative association between self-focused cognitive and authenticity was found. This is in contrast with the expectation as a positive association was expected. Again, a possible explanation is that self-focused cognitive job crafting might be a coping mechanism rather than a predictor of authenticity. It could be that employees who use this form of cognitive job crafting already experience low levels of authenticity. As a result, they start to evaluate the meaning of their work and what value their work holds in their life. Using self-focused cognitive job crafting might therefore be a consequence rather than a predictor of low levels of authenticity. Due to the cross-sectional design of this study, it is impossible to verify this suggestion.

Authenticity and well-being

The current research confirms the expectations that authenticity is positively associated with work engagement and negatively associated with burnout (Hypotheses H4a and H4b). This suggests that employees who experience high levels of authenticity might also experience high levels of work engagement and low levels of burnout. These findings are in line with the results of previous studies (Van den Bosch & Taris, 2014a; Metin et al., 2016). It seems likely that employees who experience

high levels of authenticity feel energetic, are motivated, and are therefore more engaged in their work. In addition, employees who feel authentic stay closer to their core self and feel less detached from their own values and beliefs (Van den Bosch & Taris, 2014a). They will spend less energy in pretending to be someone else, but might also have to spend less (cognitive) energy on their tasks resulting in less emotional exhaustion and thus lower levels of burnout.

Hypothesis H5a predicted that authenticity would mediate the relationship between cognitive job crafting and work engagement. This prediction was confirmed for organization-focused cognitive job crafting as its relationship with work engagement was partially mediated by authenticity. For self-focused cognitive job crafting, the prediction was rejected as no mediation effect of authenticity was found. This is in line with the results of Hypothesis H1a where no significant association was found between self-focused cognitive job crafting and work engagement. In addition, it was found that authenticity mediates the relationship between work engagement and all behavioral job crafting subscales, with the exception of increasing social job resources. This could be explained by the absence of a significant correlation between increasing social job resources and authenticity.

Hypothesis H5b predicted a mediation effect of authenticity in the relationship between cognitive job crafting and burnout. The prediction was confirmed for organization-focused cognitive job crafting as a full mediation effect of authenticity was found. For self-focused cognitive job crafting, the Hypothesis was rejected. No mediation effect was found in the relationship between self-focused cognitive job crafting and burnout. Since self-focused cognitive job crafting has a negative association with authenticity and a positive association with burnout, it is suggested that this form of cognitive job crafting is rather a coping mechanism than a predictor of these two constructs. This would also explain the absence of a mediation effect. Furthermore, it was found that authenticity mediates the relationship between burnout and all behavioral job crafting subscales, with the exception of increasing social job resources. Again, this could be explained by the absence of a significant correlation between increasing social job resources and authenticity.

Limitations

The findings of this study should be interpreted in light of some limitations. First, the research population of this study might not be diverse enough to ensure the generalizability of the results. Over 90% of the participants in this study were highly educated and nearly 60% of them were working in the life science industry. Future research could examine the usage of cognitive job crafting and its outcomes among lower educated people. It is suggested that higher educated people are more likely to craft their jobs than lower educated people (Wrzesniewski and Dutton, 2001).

Secondly, the authenticity scale that was used in this study was measured on a 5-point Likert scale. However, the I.A.M was developed by Van den Bosch and Taris (2014) to be measured on a 7-point Likert scale. Although the questionnaire showed good reliability in this study (α=.83.), measuring on a different scale might have altered the results. Lastly, as this study has a cross-sectional design, no conclusions concerning cause and effect can be drawn. Reversed causality is possible for all relationships that were found. Longitudinal research is needed to validate the findings of this study.

Implications

Most research on job crafting is focused on job crafting as it was defined by Tims et al. (2010). Because cognitive job crafting was excluded from their definition, less is known about the effects of this type of job crafting. This study adds to the existing literature about job crafting, because it has explored the associations between cognitive job crafting, authenticity, and employee well-being (i.e., high levels of work engagement and low levels of burnout). In addition, this study has distinguished two different dimensions of cognitive job crafting, namely organization-focused cognitive job crafting and self-focused cognitive job crafting. Future research could further examine the existence of the two cognitive dimensions as well as the associating with different outcome variables.

This study has also examined the added value of cognitive job crafting over and above the contribution of behavioral job crafting. The results suggested that the organization-focused dimension of cognitive job crafting has indeed added value in predicting work engagement and burnout, over and above the contribution of behavioral job crafting. These findings underline the relevance of cognitive job crafting and could stimulate further research on this topic.

Finally, this study has found positive associations between organization-focused cognitive job crafting and employee well-being (i.e., high levels of work engagement and low levels of burnout). These findings suggest that it is important for employers to create a stimulating work environment that encourages employees to cognitively craft their job. Trainings could be used to highlight the importance of an employee's job for the organization, as the results of this study indicate that the positive outcomes of job crafting are strongest when a job is defined as valuable for the organization.

<div align="center">

Conclusion

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The present study has explored the association between cognitive job crafting, authenticity, and employee well-being (i.e., high levels of work engagement and low levels of burnout). Two dimensions of cognitive job crafting were found, namely organization-focused cognitive job crafting and self-focused cognitive job crafting. It was found that organization-focused cognitive job crafting is positively associated with work engagement and negatively associated with burnout. In addition,

the results indicated that organization-focused cognitive job crafting has added value in predicting employee well-being, over and above the contribution of behavioral job crafting. This relationship is partially being mediated by authenticity. Against expectation, it was found that self-focused cognitive job crafting is positively associated with burnout. However, it is suggested that self-focused cognitive job crafting is rather a coping mechanism that a predictor of burnout. In addition, the results indicated that people tend to use cognitive job crafting more than they use behavioral job crafting. Therefore, this study underlines the relevance of the cognitive form of job crafting and the importance of further exploring its effects.

References

Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and Work Engagement: The JD–R Approach. *Annual Review of Organizational Psychology and Organizational Behavior, 1*, 389–411. doi: 10.1146/annurev-orgpsych-031413-091235

Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2008). What is job crafting and why does it matter. *Retrieved form the website of Positive Organizational Scholarship on April*, *15*, 2011.

Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2013). *Job crafting and meaningful work.* In B. J. Dik, Z. S. Byrne, & M. F. Steger (Eds.), *Purpose and meaning in the workplace* (pp. 81–104). American Psychological Association. doi: 10.1037/14183-005

Borritz, M., Bültmann, U., Rugulies, R., Christensen, K. B., Villadsen, E., & Kristensen, T. S. (2005). Psychosocial work characteristics as predictors for burnout: findings from 3-year follow up of the PUMA Study. *Journal of occupational and environmental medicine*, *47*(10), 1015-1025. doi: 10.1097/01.jom.0000175155.50789.98

Brenninkmeijer, V., & Hekkert-Koning, M. (2015). To craft or not to craft: The relationships between regulatory focus, job crafting and work outcomes. *Career Development International, 20*(2), 147-162. doi:10.1108/CDI-12-2014-0162

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied psychology*, *86*(3), 499-512.

Demerouti, E., & Bakker, A. B. (2014). *Job crafting*. In M. C. W. Peeters, J. De Jonge, & T. W. Taris (Eds.), *An introduction to contemporary work psychology* (p. 414–437). Wiley-Blackwell.

Field, A. (2013). *Discovering statistics, using IBM SPSS statistics.* London: Sage Publications Ltd.

Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *Academy of Management Annals, 3*, 273–331. doi:10.1080/19416520903047327

Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach.* New York, NY: The Guilford Press.

IJbema, J.F., & Brenninkmeijer, V (2018). Cognitive job crafting: A daily diary study. Manuscript in preparation.

Kooij, D. T. A. M., Tims, M., & Akkermans, J. (2017). The influence of future time perspective on work engagement and job performance: the role of job crafting. *European Journal of Work and Organizational Psychology, 26*(1)*, 4-15. doi:10.1080/1359432X.2016.1209489

Metin, U. B., Taris, T. W., Peeters, M. C., van Beek, I., & Van den Bosch, R. (2016). Authenticity at

work: A Job-Demands Resources perspective. *Journal of Managerial Psychology*, *31*(2), 483-499. doi: 10.1108/JMP-03-2014-0087

Nielsen, K., & Abildgaard, J. S. (2012). The development and validation of a job crafting measure for use with blue-collar workers. Work & Stress, *26*(4), 365-384.

Niessen, C., Weseler, D., & Kostova, P. (2016). When and why do individuals craft their jobs? The role of individual motivation and work characteristics for job crafting. *human relations*, *69*(6), 1287-1313. doi: 10.1177/0018726715610642

Peeters, M. C. W., De Jonge, J. and Taris, T.W. (2013), An Introduction to Contemporary Work Psychology, Wiley-Blackwell, Chichester.

Petrou, P., Demerouti, E., Peeters, M. C. W., Schaufeli, W. B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior, 33,* 1120– 1141. doi:10.1002/job.1783

Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). Maslach Burnout Inventory—General Survey. In C. Maslach,, S. E. Jackson, & M. P. Leiter (Eds.), Maslach Burnout Inventory—Test manual (3th ed., pp. 22-26). Palo Alto, CA: Consulting Psychologists Press.

Schaufeli, W. B., & Van Dierendonck, D. (2000). Handleiding Utrechtse burnout schaal. Lisse, NL: Swets Test Publishers.

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. Educational and psychological measurement, *66*(4), 701-716. doi:10.1177/0013164405282471

Seidler, A., Thinschmidt, M., Deckert, S., Then, F., Hegewald, J., Nieuwenhuijsen, K., & Riedel-Heller, S. G. (2014). The role of psychosocial working conditions on burnout and its core component emotional exhaustion–a systematic review. *Journal of Occupational Medicine and Toxicology*, *9*, 1-13. doi:10.1186/1745-6673-9-10

Sheldon, K. M., Ryan, R. M., Rawsthorne, L. J., & Ilardi, B. (1997). Trait self and true self: Cross-role variation in the Big-Five personality traits and its relations with psychological authenticity and subjective well-being. *Journal of personality and social psychology*, *73*(6), 1380. doi: 10.1037/0022-3514.73.6.1380

Slemp, G. R., & Vella-Brodrick, D. A. (2013). The Job Crafting Questionnaire: A new scale to measure the extent to which employees engage in job crafting. *International Journal of Wellbeing*, *3*(2), 126-146. doi: 10.5502/ijw.v3i2.1

Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of individual job redesign. SA Journal of Industrial Psychology, *36*(2), 1-9.

Tims, M., Bakker, A. B., & Derks, D. (2012). The development and validation of the job crafting scale. *Journal of Vocational Behavior, 80*, 173-186. doi: 10.1016/j.jvb.2011.05.009

Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology, 18*(2), 230-240. doi:10.1037/a0032141

Van Beek, I., Hu, Q., Schaufeli, W. B., Taris, T. W., & Schreurs, B. H. (2012). For fun, love, or money: What drives workaholic, engaged, and burned-out employees at work?. *Applied Psychology*, *61*(1), 30-55. doi: 10.1111/j.1464-0597.2011.00454.x

Van den Bosch, R., & Taris, T. W. (2014a) The Authentic Worker's Well-Being and Performance: The Relationship Between Authenticity at Work, Well-Being, and Work Outcomes, *The Journal of Psychology*, *148*(6), 659-681. doi: 10.1080/00223980.2013.820684

Van den Bosch, R., & Taris, T. W. (2014b). Authenticity at work: Development and validation of an individual authenticity measure at work. *Journal of Happiness Studies, 15*(1), 1-18. doi: 10.1007/s10902-013-9413-3

Van den Bosch, R., & Taris, T. (2018). Authenticity at work: Its relations with worker motivation and well-being. *Frontiers in Communication*, *3*(21), 1-11. doi: 10.3389/fcomm.2018.00021

Wang, H., Demerouti, E., & Bakker, A. B. (2016). *A review of job crafting research: The role of leader behaviors in cultivating successful job crafters*. In S. K. Parker, & U. K. Bindl (Eds.), *Proactivity at Work: Making Things Happen in Organizations* (pp. 77-104). (Series in Organization and Management). Taylor and Francis Ltd.

Wrzesniewski, A., LoBuglio, N., Dutton, J. E., & Berg, J. M. (2013). Job crafting and cultivating positive meaning and identity in work. *In Advances in positive organizational psychology* (pp. 281-302). Emerald Group Publishing Limited.

Appendix

Appendix A: Factor analysis final cognitive job crafting scale.

Appendix B: Factor analysis behavioral job crafting scale.

Appendix C: Questionnaire Qualtrics file

Appendix A: Factor analysis final cognitive job crafting scale.

Table 2

Factor loadings of the final cognitive job crafting scale in which factor 1 can be defined as self-focused cognitive job crafting and factor 2 as organization-focused cognitive job crafting

Item	Factor	
	1	2
1. Ik denk na over hoe mijn werk doel en betekenis geeft aan mijn leven.	**.858**	-.121
2. Ik herinner mijzelf aan de betekenis van mijn werk voor het succes van de organisatie.	.255	**.583**
3. Ik herinner mijzelf aan het belang van mijn werk voor de maatschappij.	**.628**	.140
4. Ik denk na over de manier waarop mijn werk een positieve invloed heeft op mijn leven.	**.770**	.122
5. Ik denk na over de rol die mijn werk speelt in mijn algehele wijlzijn.	**.821**	-.044
6. Ik ben me bewust van de betekenis van mijn werk.	.131	**.779**
7. Ik zie het nu van mijn werktaken.	-.142	**.847**
8. Ik denk na over hoe mijn werk bijdraagt aan de organisatie als geheel.	-.031	**841**

Note. Rotation method: Oblimin with Kaiser normalization.

Appendix B: Factor analysis behavioral job crafting scale.

Table 3

Factor loadings of the behavioral job crafting scale

Item	Factor			
	1	2	3	4
1. Ik zorg ervoor dat ik mijn capaciteiten optimaal benut. [3]				
2. Ik zorg ervoor dat ik niet teveel hoef om te gaan met de personen wier problemen mij emotioneel raken.	.024	**.642**	-.055	-.048
3. Ik vraag collega's om advies.	.110	.0.63	-.027	**-.604**
4. Ik probeer mezelf bij te scholen.	**.758**	-.079	-.032	-.183
5. Als er nieuwe ontwikkelingen zijn, sta ik vooraan om ze te horen en uit te proberen. [i]				
6. Ik vraag of mijn leidinggevende tevreden is over mijn werk.	.137	0.93	.106	**-.603**
7. Ik zorg ervoor dat ik zelf kan beslissen hoe ik iets doe. [3]				
8. Ik zorg ervoor dat ik minder moeilijke beslissingen in mijn werk hoef te nemen.	-.107	**.618**	-.139	-.155
9. Ik probeer nieuwe dingen te leren op mijn werk.	**.756**	-.083	.128	-.081
10. Ik vraag anderen om feedback over mijn functioneren. [3]				
11. Ik zorg ervoor dat ik minder emotioneel inspannend werk moet verrichten.	-.088	**.749**	.127	-.042
12. Ik zoek inspiratie bij mijn leidinggevende.	-.037	.004	.006	**-.830**
13. Ik probeer mezelf te ontwikkelen.	**.770**	-.190	.099	-.108
14. Ik neem geregeld extra taken op me hoewel ik daar geen extra salaris voor ontvang.	-.270	-.268	**.704**	-.209
15. Ik zorg ervoor dat ik niet teveel hoef om te gaan met mensen die onrealistische verwachtingen hebben.	.223	**.687**	-.119	-.036
16. Als het rustig is op mijn werk, zie ik dat als een kans om nieuwe projecten op te starten.	.056	.035	**.706**	-.053
17. Ik vraag mijn leidinggevende om mij te coachen.	-.019	-.011	.032	**-.780**
18. Ik zorg ervoor dat ik minder geestelijk inspannend werk hoef te verrichten.	-.168	**.713**	.089	.035

19. Ik probeer mijn werk wat zwaarder te maken door de onderliggende verbanden van mijn werkzaamheden in kaart te brengen.	.372	.183	**.552**	.106
20. Als er een interessant project voorbij komt, bied ik mezelf proactief aan als projectmedewerker.	.162	.086	**.748**	-.041
21. Ik zorg ervoor dat ik me niet lange tijd achter elkaar hoef te concentreren.	-.065	**.533**	.087	.063

Note. Rotation method: Oblimin with Kaiser normalization.

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[3] Item was removed for loading on a different factor than intended.

Appendix C: Questionnaire Qualtrics file.

Qualtrics Thesis Lucas & Gythe

Geachte deelnemer,

Hartelijk dank dat u (wederom) meewerkt aan het onderzoek naar job crafting! Het doel van huidig onderzoek is inzicht krijgen in de relatie tussen 'job crafting' (de manier waarop een individu zelf zijn/haar baan vormgeeft), het gevoel u zelf te kunnen zijn, uw prestaties en welzijn. Aan het begin van de vragenlijst worden een aantal achtergrondgegevens gevraagd. De overige vragen hebben betrekking op uw werk. Indien u op dit moment niet werkzaam bent, denk dan terug aan de functie die u voor het laatst uitgeoefend heeft. De informatie die u verstrekt, zal geheel anoniem en strikt vertrouwelijk behandeld worden. Dit betekent dat de resultaten alleen verwerkt worden door de Universiteit Utrecht en niet worden gekoppeld aan (uw inschrijving bij) Derks & Derks B.V.
Het invullen van de vragenlijst neemt ongeveer 10 minuten van uw tijd in beslag. Over uw antwoorden hoeft u niet lang na te denken, het gaat om uw eerste ingeving. Bovendien bestaan er geen goede of foute antwoorden. Let op: u kunt geen vragen overslaan. Voor de verwerking van de data is het van belang dat u alle vragen invult. Wanneer u de vragenlijst heeft ingevuld, is het voor de verwerking van antwoorden noodzakelijk deze te verzenden door op het zwarte pijltje naar rechts te drukken. Tijdens het invullen kunt u eventueel terug keren naar een vorige vraag, door op het pijltje naar links te drukken. Uiteraard is deelname geheel vrijblijvend en kunt u gedurende het onderzoek op elk moment stoppen. Uw gegevens worden dan niet verwerkt. Wanneer u voor, tijdens of na het onderzoek vragen of suggesties heeft, kunt u ons bereiken via Lucas@derksenderks.nl of G.e.a.eekhoutte@uu.nl. Alvast hartelijk dank voor uw deelname!

Met vriendelijke groet,

Lucas Eijkemans, Masterstudent Social, health and organisational psychology aan de Universiteit Utrecht en stagiair bij Derks & Derks B.V., en Gythe Eekhoutte, Masterstudent Social, health and organisational psychology aan de Universiteit Utrecht

In samenwerking met: dr. Veerle Brenninkmeijer, Onderzoeksbegeleidster Universiteit Utrecht, en Jan Derks, Directeur Derks & Derks B.V.

Indien u de introductie heeft gelezen en mee wilt doen aan dit onderzoek, klik dan onderstaand op 'Ik ga akkoord' om door te gaan met het onderzoek. Mocht u niet akkoord gaan, kunt u helaas niet deelnemen aan dit onderzoek. In dat geval kunt u de vragenlijst nu sluiten.

○ Ik ga akkoord

Persoonlijke code

Hieronder vragen wij u of u een persoonlijke code aan wilt maken. Met behulp van deze code kunnen we de antwoorden koppelen aan eventueel eerder gegeven antwoorden (indien u vorig jaar heeft meegewerkt aan het onderzoek) of bij eventueel vervolgonderzoek. Op deze manier blijft uw

anonimiteit gewaarborgd. Deze code wordt niet verbonden aan Derks & Derks en zal uitsluitend beheerd worden door de Universiteit Utrecht. De persoonlijke code is geheel geanonimiseerd en bestaat uit de volgende onderdelen: de 4 cijfers van uw geboortedag de eerste letter van de voornaam van uw vader de eerste letter van de voornaam van uw moeder Voorbeeld: Is uw geboortedag 6 oktober, de voornaam van uw vader Bert en de voornaam van uw moeder Jannie, dan wordt uw persoonlijke code dus: 0610BJ.

Indien u een persoonlijke code wilt aanmaken, vult u deze dan hieronder in:

_____

De volgende vragen hebben betrekking op uw achtergrondgegevens.

Wat is uw geslacht?

◯ Man

◯ Vrouw

◯ Anders

Wat is uw leeftijd?

_____

Wat is uw hoogst afgeronde opleiding?

○ Lagere school

○ MAVO, LBO, VMBO

○ HAVO, MBO

○ VWO

○ HBO

○ Universiteit

Bent u zelfstandig ondernemer?

○ Ja

○ Nee

Voor hoeveel uur heeft u contractueel een aanstelling?

_____

Hoeveel jaar bent u in totaal werkzaam over uw gehele leven?

○ 0 tot 2 jaar

○ 2 tot 5 jaar

○ 5 tot 10 jaar

○ > 10 jaar

Hoeveel jaar bent u werkzaam in uw huidige functie?
Indien dit niet van toepassing is, kunt u het volgende invullen: nvt

_____

In welke branche bent u momenteel werkzaam?

- ◯ Voedingsmiddelen industrie

- ◯ Farma / biotechnische industrie

- ◯ Gezondheidszorg

- ◯ Medical devices / laboratoriumbenodigdheden

- ◯ Anders, namelijk: _____

- ◯ N.v.t

Tot welke functiegroep behoort uw functie?

○ QA / regulatory affairs

○ Sales / Marketing

○ Medisch expert

○ IT

○ HRM

○ Inkoop

○ Financiën

○ Administratief

○ Planning / logistiek

○ R&D

○ QC / laboratorium

○ Management / directie

○ Anders, namelijk: _____

○ N.v.t.

De volgende uitspraken gaan over uw gedrag op werk. Kies bij iedere stelling het antwoord dat op u van toepassing is.

Antwoordschalen:
1 = nooit
2 = soms
3 = regelmatig
4 = vaak
5 = heel vaak

	nooit (1)	soms (2)	regelmatig (3)	vaak (4)	heel vaak (5)
Ik zorg ervoor dat ik mijn capaciteiten optimaal benut	○	○	○	○	○
Ik zorg ervoor dat ik niet teveel hoef om te gaan met de personen wier problemen mij emotioneel raken.	○	○	○	○	○
Ik vraag collega's om advies	○	○	○	○	○
Ik probeer mezelf bij te scholen	○	○	○	○	○
Als er nieuwe ontwikkelingen zijn, sta ik vooraan om ze te horen en uit te proberen	○	○	○	○	○
Ik vraag of mijn leidinggevende tevreden is over mijn werk	○	○	○	○	○
Ik zorg ervoor dat ik zelf kan beslissen hoe ik iets doe	○	○	○	○	○
Ik zorg ervoor dat ik minder moeilijke beslissingen in mijn werk hoef te nemen	○	○	○	○	○
Ik probeer nieuwe dingen te leren op mijn werk	○	○	○	○	○
Ik vraag anderen om feedback over mijn functioneren	○	○	○	○	○
Ik zorg ervoor dat ik minder emotioneel inspannend werk moet verrichten	○	○	○	○	○
Ik zoek inspiratie bij mijn leidinggevende	○	○	○	○	○

Ik probeer mezelf te ontwikkelen	○	○	○	○	○
Ik neem geregeld extra taken op me hoewel ik daar geen extra salaris voor ontvang	○	○	○	○	○
Ik zorg ervoor dat ik niet teveel hoef om te gaan met mensen die onrealistische verwachtingen hebben	○	○	○	○	○
Als het rustig is op mijn werk, zie ik dat als een kans om nieuwe projecten op te starten	○	○	○	○	○
Ik vraag mijn leidinggevende om mij te coachen	○	○	○	○	○
Ik zorg ervoor dat ik minder geestelijk inspannend werk hoef te verrichten	○	○	○	○	○
Ik probeer mijn werk wat zwaarder te maken door de onderliggende verbanden van mijn werkzaamheden in kaart te brengen	○	○	○	○	○
Als er een interessant project voorbij komt, bied ik mezelf proactief aan als projectmedewerker	○	○	○	○	○
Ik zorg ervoor dat ik me niet lange tijd achter elkaar hoef te concentreren	○	○	○	○	○

De volgende uitspraken gaan over uw gedrag op werk. Kies bij iedere stelling het antwoord dat op u van toepassing is.

Antwoordschalen:

1 = nooit

2 = soms

3 = regelmatig

4 = vaak

5 = heel vaak

	nooit (1)	soms (2)	regelmatig (3)	vaak (4)	heel vaak (5)
Ik denk na over hoe mijn werk doel en betekenis geeft aan mijn leven.	○	○	○	○	○
Ik herinner mijzelf aan de betekenis van mijn werk voor het succes van de organisatie.	○	○	○	○	○

Ik herinner mijzelf aan het belang van mijn werk voor de maatschappij.	○	○	○	○	○
Ik denk na over de manier waarop mijn werk een positieve invloed heeft op mijn leven.	○	○	○	○	○
Ik denk na over de rol die mijn werk speelt in mijn algehele welzijn.	○	○	○	○	○

De volgende uitspraken gaan over uw gedrag op werk. Kies bij iedere stelling het antwoord dat op u van toepassing is.

Antwoordschalen:
 1 = nooit
 2 = soms
 3 = regelmatig
 4 = vaak
 5 = heel vaak

	nooit (1)	soms (2)	regelmatig (3)	vaak (4)	heel vaak (5)
Ik denk na over de doelen die ik met mijn werk wil bereiken.	○	○	○	○	○
Ik ben me bewust van de betekenis van mijn werk.	○	○	○	○	○
Ik zie het nut van mijn werktaken.	○	○	○	○	○
Ik denk na over hoe mijn werktaken ook kunnen bijdragen aan mijn persoonlijke lange termijndoelen.	○	○	○	○	○
Ik denk na over hoe mijn werk bijdraagt aan de organisatie als geheel.	○	○	○	○	○
Ik heb geprobeerd te veranderen hoe ik tegen mijn werk aan kijk.	○	○	○	○	○
Ik heb geprobeerd nieuwe doelen te stellen in mijn werk.	○	○	○	○	○

De volgende stellingen hebben betrekking op uw meest recente werksituatie.

Antwoordschalen:
1 = Helemaal niet op mij van toepassing
2 =
3 = Neutraal
4 =
5 = Helemaal op mij van toepassing

	Helemaal niet op mij van toepassing (1)	(2)	Neutraal (3)	(4)	Helemaal op mij van toepassing (5)
Andere mensen beïnvloeden mij sterk op werk	○	○	○	○	○
Op mijn werk gedraag ik me op de manier welke van mij wordt verlangd	○	○	○	○	○
Ik word sterk beïnvloed door wat anderen op mijn werk vinden	○	○	○	○	○
Ik vind het gemakkelijker om goed op te schieten met mensen op mijn werk wanneer ik mezelf ben	○	○	○	○	○
Ik houd op mijn werk vast aan de overtuigingen waar ik in geloof	○	○	○	○	○

Op mijn werk blijf ik trouw aan wie ik ben	○	○	○	○	○
Ik voel me op mijn werk niet verbonden met wie ik echt ben	○	○	○	○	○
Op mijn werk gedraag ik me in overeenstemming met mijn eigen waarden en overtuigingen	○	○	○	○	○
Ik voel me op mijn werk vervreemd van mijzelf	○	○	○	○	○
Op mijn werk voel ik me afgesloten van wie ik werkelijk ben	○	○	○	○	○
Op mijn werk heb ik de behoefte om te doen wat anderen van mij verwachten	○	○	○	○	○
Ik voel me op mijn werk niet zoals ik werkelijk ben	○	○	○	○	○

De volgende stellingen gaan over hoe u op uw werk functioneert. Kies bij elke uitspraak het voor u best passende antwoord.

Antwoordschalen:
1 = helemaal mee oneens
2 = mee oneens
3 = mee eens
4 = helemaal mee eens

	Helemaal mee oneens (1)	Mee oneens (2)	Mee eens (3)	Helemaal mee eens (4)
U helpt collega's met hun werk als zij terugkeren van een periode van afwezigheid	○	○	○	○
U behaalt de doelen van uw functie	○	○	○	○
U biedt vrijwillig aan om dingen te doen die formeel gezien niet vereist worden door de functie die u bekleedt	○	○	○	○
U voldoet aan de normen voor goede prestaties	○	○	○	○
U neemt initiatief om nieuwe medewerkers wegwijs te maken, hoewel dit formeel gezien geen onderdeel van uw functie is	○	○	○	○

U laat zien een deskundige te zijn op alle onderdelen van uw werkzaamheden	○	○	○	○
U helpt collega's die kampen met een hoge werkdruk of die andere problemen hebben	○	○	○	○
U vervult alle eisen die uw functie aan u stelt	○	○	○	○
U helpt uw collega's bij de uitvoering van hun werkzaamheden	○	○	○	○
U kunt meer aan dan er van u gevraagd wordt	○	○	○	○
U doet goede suggesties om de algehele kwaliteit van de afdeling/de organisatie te verbeteren	○	○	○	○
U lijkt geschikt voor een hogere positie	○	○	○	○
U bent bereid om dingen te doen die niet door de organisatie worden geëist, maar die goed zijn voor het imago van de organisatie	○	○	○	○
U bent competent op alle terreinen van uw functie	○	○	○	○
U presteert goed in uw functie doordat u de taken naar verwachting uitvoert	○	○	○	○

Ik organiseer en plan het werk om doelen te realiseren en deadlines te halen	○	○	○	○

De volgende uitspraken gaan over de manier waarop u uw werk beleeft en hoe u zich daarbij voelt. Kies bij elke uitspraak het voor u best passende antwoord.

Antwoordschalen:

0 = nooit

1 = sporadisch (een paar keer per jaar of minder)

2 = af en toe (eens per maand of minder)

3 = regelmatig (een paar keer per maand)

4 = dikwijls (eens per week)

5 = zeer dikwijs (een paar keer per week)

6 = altijd (dagelijks)

	Nooit (0)	Sporadisch (1)	Af en toe (2)	Regelmatig (3)	Dikwijls (4)	Zeer Dikwijls (5)	Altijd (6)
Op mijn werk bruis ik van energie.	○	○	○	○	○	○	○
Als ik werk voel ik me fit en sterk.	○	○	○	○	○	○	○

Als ik 's morgens opsta heb ik zin om aan het werk te gaan.	○	○	○	○	○	○	○
Ik ben enthousiast over mijn baan.	○	○	○	○	○	○	○
Mijn werk inspireert mij.	○	○	○	○	○	○	○
Ik ben trots op het werk dat ik doe.	○	○	○	○	○	○	○
Ik ga helemaal op in mijn werk.	○	○	○	○	○	○	○
Mijn werk brengt mij in vervoering.	○	○	○	○	○	○	○
Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig.	○	○	○	○	○	○	○

De volgende uitspraken gaan over de manier waarop u uw werk beleeft en hoe u zich daarbij voelt. Kies bij elke uitspraak het voor u best passende antwoord.

Antwoordschalen:
0 = nooit
1 = sporadisch (een paar keer per jaar of minder)
2 = af en toe (eens per maand of minder)
3 = regelmatig (een paar keer per maand)
4 = dikwijls (eens per week)
5 = zeer dikwijs (een paar keer per week)
6 = altijd (dagelijks)

	Nooit (0)	Sporadisch (1)	Af en toe (2)	Regelmatig (3)	Dikwijls (4)	Zeer Dikwijls (5)	Altijd (6)
Ik voel me mentaal uitgeput door mijn werk.	○	○	○	○	○	○	○
Een hele dag werken vormt een zware belasting voor mij.	○	○	○	○	○	○	○
Ik voel me 'opgebrand' door mijn werk	○	○	○	○	○	○	○
Aan het einde van de werkdag voel ik me leeg.	○	○	○	○	○	○	○
Ik voel me vermoeid als ik 's morgens opsta en er weer een werkdag voor me ligt.	○	○	○	○	○	○	○

Tot slot willen wij u vragen via welke weg u op de hoogte bent gesteld van deze vragenlijst.

○ Derks & Derks B.V.

○ LinkedIn

○ Overige social media

○ Persoonlijk benaderd door de enquêteur

○ Anders, namelijk: _____

Heeft u nog opmerkingen? Vult u deze hieronder in:

_____

_____

_____

_____

_____

Indien u geïnteresseerd bent in de resultaten van dit onderzoek, kunt u uw e-mailadres hieronder invullen. Uw e-mailadres wordt niet gekoppeld aan uw persoonlijke gegevens, waardoor anonimiteit gewaarborgd blijft. Naar verwachting ontvangt u de resultaten in Juli 2019.

_____

Als u in de toekomst wilt meewerken aan dit onderzoek, kunt u hieronder uw e-mailadres invullen. Wederom, Uw e-mailadres wordt niet gekoppeld aan uw persoonlijke gegevens, waardoor anonimiteit gewaarborgd blijft. Uw e-mailadres zal tevens uitsluitend worden gebruikt voor een eventuele vervolgmeting.

_____

Dit is het einde van de vragenlijst. LET OP: uw antwoorden zijn nog niet opgeslagen!

Door op het zwarte pijltje (naar rechts) te klikken, worden uw antwoorden verzonden. Hartelijk dank voor uw deelname.