The Circumplex Model of Occupational Well-being: Its Relation with Personality

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Abstract: The purpose of this study was to identify different types of occupational well-being based on the circumplex model (Russell, 1980; Warr, 1994), and to examine how these types are related to the Big Five personality profiles. The middle-aged participants were drawn from the Jyväskylä Longitudinal Study of Personality and Social Development (*N* = 183). Application of a person-oriented approach with latent profile analysis yielded four types of occupational well-being: (a) Engaged (30%), (b) Ordinary (54%), (c) Bored-out (9%), and (d) Burned-out (7%). The personality profiles showed a strong relationship with these occupational well-being types. Resilient individuals (low in neuroticism and high in the other Big Five traits) typically belonged to the Engaged type, whereas Overcontrolled individuals (high in neuroticism and low in the other Big Five traits) typically belonged to the Burned-out type. Overall, the findings suggest that personality can be consistently located within the circumplex model of occupational well-being.

Keywords: occupational well-being, circumplex model, personality, person-oriented

The circumplex model of emotions (Russell, 1980; Warr, 1994) has recently been applied in the context of occupational health psychology. Bakker and his colleagues (Bakker & Oerlemans, 2011) argued that four different states of occupational well-being – burnout, work engagement, workaholism, and job satisfaction – can be positioned in the two-dimensional space made up by activation and pleasure. However, it is unclear how these four well-being indicators combine within individuals. That is, does high work engagement and job satisfaction go hand in hand with low levels of burnout and workaholism, or do the pleasant and unpleasant occupational well-being states co-occur at the intra-individual level? The first aim of the present study was to offer a deeper and more complete picture of occupational

well-being, and consequently the individual constellations of burnout, work engagement, workaholism and job satisfaction were investigated by applying a person-centered approach (Bergman, Magnusson, & El-Khouri, 2003; Laursen & Hoff, 2006). An improved understanding of the constellations of occupational well-being indicators that coexist within individuals would help researchers and managers to better describe and comprehend occupational well-being. To support employee well-being, one needs to understand it comprehensively, and not just focus on single aspects of it.

The second aim of the present study was to investigate the links between personality profiles and types of occupational well-being. Although the link between personality and oc-

cupational well-being has long been known and recognized (Lazarus & Folkman, 1984; Spector, 2003), no consensus exists on what constitute the core personality traits that matter in promoting or impairing employee well-being at work. In addition, the occupational well-being literature has thus far focused largely on single personality traits, ignoring the fact that, as a holistic person, an employee simultaneously possesses many personality traits all of which play a role in occupational well-being (Mäkikangas, Feldt, Kinnunen, & Mauno, 2013). Our study addresses these gaps in the literature and combines the latest theoretical knowledge from personality psychology with occupational health psychology by investigating the linkages between the Big Five personality profiles and occupational well-being types.

Circumplex Model of Occupational Well-being

In the occupational health psychology context, the structure of occupational well-being has been classified in the same manner as subjective well-being in general; i.e., by classifying different emotional states based on pleasantness and arousal (Russell, 1980; Warr, 1994; Watson & Tellegen, 1985). Recently, the structural model of emotional states has been applied in the work context by the integration of four frequently used work-related well-being indicators: burnout, work engagement, workaholism, and job satisfaction (Bakker & Oerlemans, 2011). According to Bakker and Oerlemans (2011), these four occupational well-being concepts represent different states of pleasantness and arousal that can be used to describe the multifaceted nature of employee well-being. That is, *work engagement* – defined as a positive, fulfilling, work-related state of mind characterized by vigor, dedication and absorption (Schaufeli, Salanova, González-Romá, & Bakker, 2002) – is also characterized by activation and pleasure, whereas *workaholism* is similarly characterized by high activation, but also by displeasure. Workaholism is typically defined as a strong inner, compulsive drive to work excessively hard (Schaufeli, Taris, & Bakker, 2008). To complete the four quadrants, *burnout*, as the opposite pole of work engagement, is characterized by de-activation and displeasure, while *job satisfaction*, as the opposite of workaholism, is characterized by de-activation and pleasure. Burnout is defined as a persistent, work-related state of ill-being characterized by the dimensions of exhaustion, cynicism, and reduced professional efficacy (Maslach, Jackson, & Leiter, 1996), whereas job satisfaction is defined as individuals' global positive feeling about their job (Spector, 1997).

Recently, Salanova, Del Libano, Llorens and Schaufeli (2014) used cluster analysis to investigate the circumplex model of employee well-being. They found four well-being types among a heterogeneous sample of Spanish employees that bore a close resemblance to the four quadrats of the circumplex model (Bakker & Oerlemans (2011): Engaged, Workaholic, Burned-out, and 9-to-5. Engaged and worka-

holic employees experienced the highest levels of energy (i.e., activation), whereas engaged workers reported the most pleasure, and workaholics (together with burned-out employees) the most displeasure in their jobs. Nine-to-five workers reported high pleasure and medium levels of energy.

In addition to this, a few previous person-oriented studies have focused on different quadrants of the circumplex model (Bakker & Oerlemans, 2011), but not on all four of them simultaneously. In a recent diary study, three types were found based on the scores for vigor and exhaustion over the workweek among Finnish social and health care and service sector workers: Constantly vigorous, Concurrently vigorous and exhausted, and Constantly exhausted (Mäkikangas et al., 2014). With respect to work engagement and workaholism, van Beek, Taris and Schaufeli (2011) found four types based on mean-split criteria among Dutch employees: Workaholics, Engaged workers, Engaged workaholics, and Non-workaholic/non-engaged workers. However, in a recent longitudinal study, Mäkikangas, Schaufeli, Tolvanen and Feldt (2013) identified four workaholism and work engagement types based on Growth mixture modelling. These were: 1) decreasing work engagement (WE) - low stable workaholism (WH); 2) Low increasing WE - average decreasing WH; 3) Low decreasing WE - low stable WH; and 4) High stable WE - average stable WH. These types differed from each other mainly in the levels and changes of work engagement. Thus, work engagement and workaholism were independent well-being states within individuals. Overall, these results provide some, if not wholly unambiguous evidence for the propositions of the circumplex model by Bakker and Oerlemans (2011).

The present study continued this recent line of research by applying a person-oriented approach to investigate the relations between different occupational well-being indicators within individuals, drawn from a representative sample of individuals from various occupational groups. In practice, this person-oriented approach means that we identified different groups of employees with different scoring patterns (i.e., mean levels) of the simultaneously estimated four indicators of the circumplex model of occupational well-being: job exhaustion, work engagement, workaholism, and job satisfaction (Bakker & Oerlemans, 2011). Hence, the present study offered a more complete picture of occupational well-being by focusing on all four indicators of the circumplex model simultaneously instead of only two (Mäkikangas et al., 2014; Mäkikangas, Schaufeli et al., 2013; van Beek et al., 2011). This means that our study complements the results of Salanova and her colleagues (2014) by using latent profile analysis to investigate the individual constellations of job exhaustion, work engagement, workaholism, and job satisfaction among a heterogeneous sample of Finnish employees. As person-oriented analysis is exploratory in its nature, it is essential that the circumplex model is investigated in different samples (e.g.,

occupations, countries). By so doing, information can be gained as to which occupational well-being types are general and thus not sample-specific.

In light of the circumplex model (Bakker & Oerlemans, 2011) and previous empirical evidence based on person-centered findings (Salanova et al., 2014), it is expected that four occupational well-being types will emerge parallel with the four quadrants of the circumplex model (see Figure 1): Engaged, Workaholics, Satisfied and Burned-Out (*Hypothesis 1*).
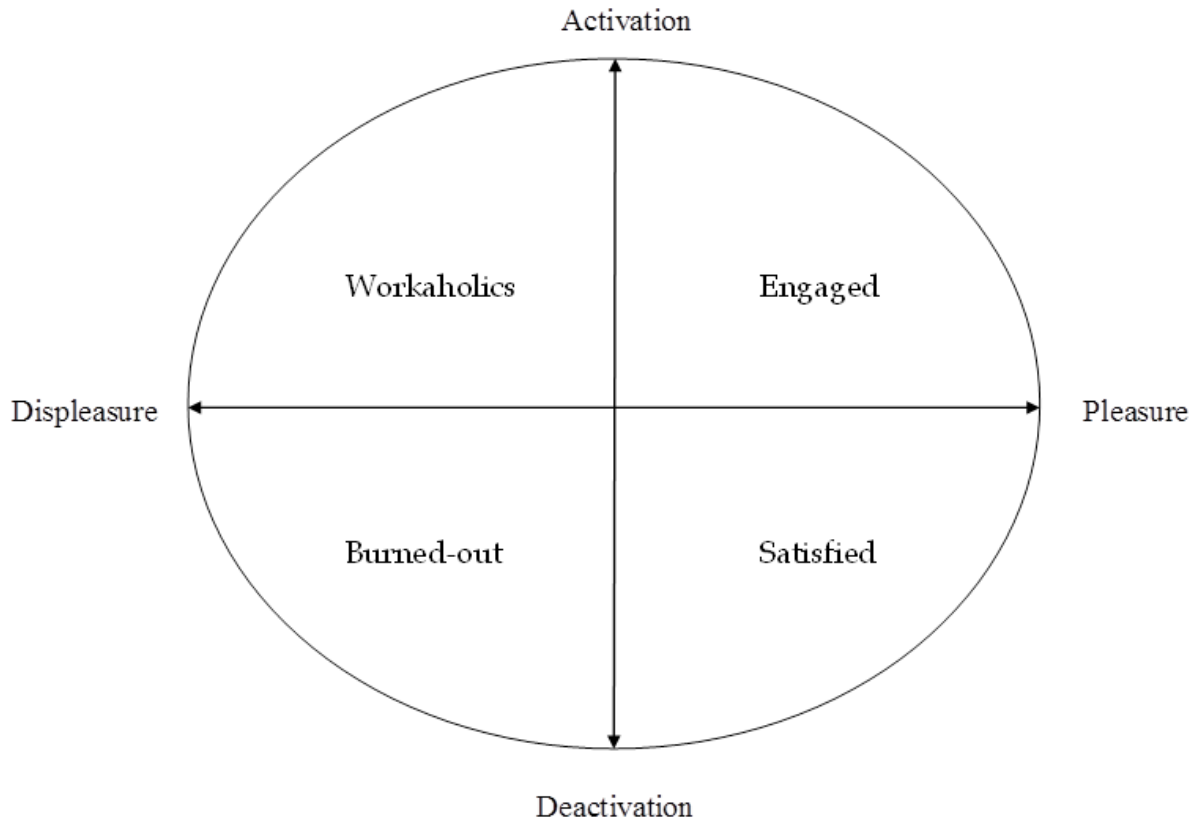
Figure 1. *Hypothesized Types of Occupational Well-being*.
Note. Adopted from Russell (1980) and Warr (1994) (see also Bakker & Oerlemans, 2011)

Big Five Personality Trait Profiles

Our next aim was to investigate the possible relationships between the occupational well-being types identified and personality. This extends the study by Salanova et al. (2014), who investigated the role of some single personal resources (i.e., self-efficacy and mental/emotional competences). In the present study, personality profiles were examined within the framework of the five-factor model of personality (FFM). This is because the FFM represents a working consensus on the descriptive structure of personality traits (Caspi, Roberts, & Shiner, 2005) while it also covers and groups the lower level and narrower personality traits into the highest-level individual differences, that is, into the Big Five personality traits: neuroticism (vs. emotional stability),

extraversion, openness to experience, agreeableness, and conscientiousness (McCrae & Costa, 2003; see also Goldberg, 1990).

As our objective was to understand personality as a whole which would best be achieved by taking a person-oriented approach to personality traits as well, we utilized personality profiles that have been published and validated earlier using the present longitudinal data set (Kinnunen et al., 2012). Kinnunen and her colleagues (2012), using the latent profile analysis method, extracted five personality trait profiles based on mean scores of all Big Five traits that, measured in adulthood at ages 33, 42 and 50, showed stability across a period of 17 years (see Figure 2).
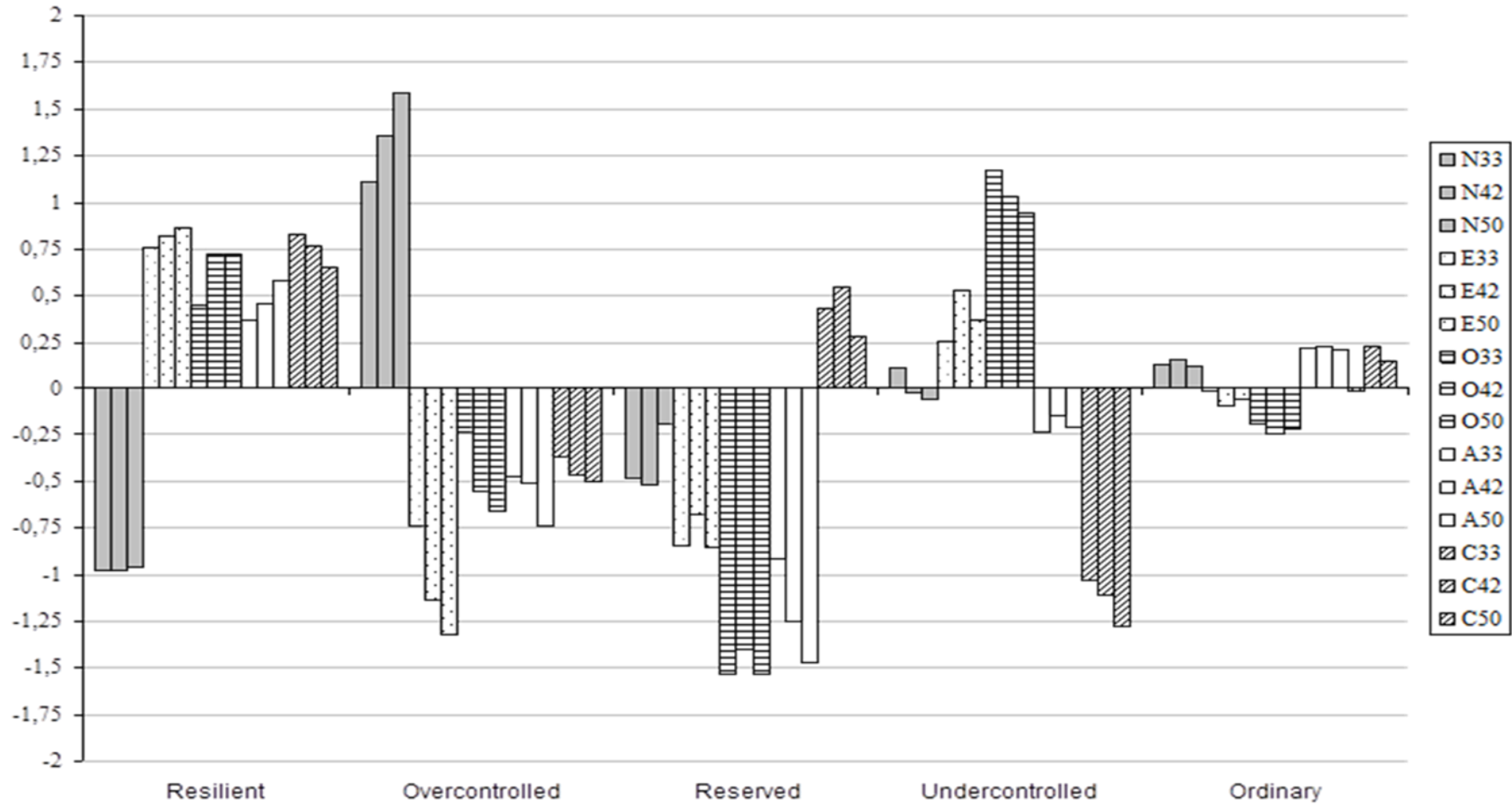
Figure 2. *Five Personality Profiles Characterized by their Big Five z-scores Patterns at Ages 33, 42 and 50 (see Kinnunen et al., 2012).*
N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness

These longitudinal profiles were Resilient, Overcontrolled, Undercontrolled, Reserved, and Ordinary, and they bear similarities to the profiles previously found for adults but based on cross-sectional designs (Donnellan & Robins, Herzberg & Roth, 2006; Roth & Von Collani, 2007). The largest profile called *Ordinary* (44%) was characterized by mean scores for all the personality traits (Kinnunen et al., 2012; Pulkkinen, Räikkönen, Kinnunen, & Kokko, 2013). In comparison with Ordinary individuals, *Resilient* individuals (21%) were higher in extraversion and conscientiousness but lower in neuroticism. In addition, they had relatively high levels of openness and agreeableness. *Overcontrolled* individuals (13%) were lower in extraversion and conscientiousness but higher in neuroticism than Ordinary individuals. In addition, Overcontrolled individuals had relatively low levels of openness and agreeableness. *Reserved* individuals (8%) were higher in conscientiousness, but lower in extraversion, all the other traits being low. *Undercontrolled* individuals (13%) were in higher in extraversion and openness but lower in conscientiousness

The profiles had meaningful associations with self-assessed health; high extraversion combined with high conscientiousness (Resilients) was associated with the best self-assessed health; high extraversion and openness combined with low conscientiousness (Undercontrolleds) with average health, and low extraversion with low conscientiousness (Overcontrolleds) with the poorest health (Kinnunen et al., 2012). Hence, these longitudinal profiles of the Big Five traits had more nuanced associations with self-assessed health than single traits. Furthermore, using the profiles, it was possible to compress the personality information gathered over time. The use of these person-oriented profiles already validated in the data set was reasonable and suitable for the present study, and offered a new approach to the question of the relationship between personality and occupational well-being.

Big Five Personality Traits and Occupational Well-being

Associations between the Big Five traits and occupational well-being are typically studied through a variable-centered approach, in which single traits are associated with certain occupational well-being indicators. Of the four occupational well-being constructs of the circumplex model (Bakker & Oerlemans, 2011), the personality–job satisfaction link has received most research interest. A meta-analysis showed that, of the Big Five traits, high neuroticism was consistently related to low job satisfaction, while both high extraversion and high conscientiousness displayed moderate associations with high job satisfaction (Judge, Heller, & Mount, 2002). Agreeableness and openness were only weakly associated with job satisfaction, with considerable correlational variation between studies. A recent literature review that investigated the linkages between work engagement and the Big Five traits (Mäkikangas, Feldt et al., 2013) showed that high

extraversion and high conscientiousness were consistently associated with high work engagement levels, whereas a negative association between neuroticism and work engagement was found in half of the cases studied. The link between conscientiousness and work engagement has also been established in a meta-analysis by Christian, Garza and Slaughter (2011).

A meta-analysis on the personality–burnout relationship (Alarcon, Eschleman, & Bowling, 2009) reported that emotional stability, extraversion, conscientiousness and agreeableness associated negatively with all the burnout dimensions. The association between low emotional stability and the burnout dimensions, in particular, was strong. The workaholism–personality link has been addressed in only a few studies. The studies by Burke, Matthiesen, and Pallesen (2006) and Andreassen, Hetland and Pallesen (2010) both found that neuroticism and conscientiousness associated positively with feeling driven to work (i.e., a core component of workaholism; Schaufeli, Shimazu, & Taris, 2009). In addition, feeling driven to work correlated positively with extraversion (Andreassen et al., 2010) and negatively with openness (Burke et al., 2006).

To summarize, nearly all the studies included in the meta-analysis or reviews of the associations between the single Big Five traits and occupational well-being states have utilized cross-sectional designs and analyzed the Big Five traits separately (e.g., Mäkikangas, Feldt et al., 2013). However, the different studies share certain common elements which allow us to build a picture of the influence of the more beneficial personality traits: high emotional stability (i.e., low level of neuroticism) along with extraversion and conscientiousness seemed to be the most beneficial and most consistently found traits relevant to occupational well-being.

To further dissect the role of the Big Five personality traits in the occupational health context, grouping the traits under alpha and beta superordinate factors is a useful strategy (Digman, 1997). According to Digman, low neuroticism, high conscientiousness and high agreeableness form the *alpha factor*, which describes a successful socialization process along with psychosocial maturity and social desirability. To be successful in working life, an employee needs to have high emotional stability, take others into account (agreeableness) and act in a responsible way (conscientiousness). In line with Digman, high extraversion and openness comprise the *beta-factor*, which reflects personal growth and self-actualization. Personal growth and self-actualization is possible via energy, activity, and courage (extraversion) as well as via creativity, imagination and new experiences (openness). These traits could help individuals in their goals of finding and fulfilling their purpose and developing their expertise in working life, in turn helping them to experience satisfaction and well-being.

Hence, by combining information from the superordinate factors (Digman, 1997) and empirical evidence from the links between occupational well-being and the Big Five

traits presented above, we assume that the Resilient personality profile is associated with the Engaged (*Hypothesis 2*) and Satisfied (*Hypothesis 3*) occupational well-being types, as both work engagement and job satisfaction have been linked to low neuroticism, high extraversion, and high conscientiousness, all of which characterize the Resilient personality profile. In addition, it is assumed that the Overcontrolled personality profile is associated with the Burned-out type (*Hypothesis 4*), as high burnout/job exhaustion has been linked to high neuroticism, low extraversion, low agreeableness and low conscientiousness, all characteristics of the Overcontrolled personality profile. The hypothesized Workaholic occupational well-being type did not show a similar unambiguous and high correspondence with the personality trait profiles as did the Engaged, Job satisfied, and Burned-out types. This is because workaholism has been linked not only to high neuroticism but also to high extraversion, high conscientiousness and low openness, a combination of personality traits that is not present in any one of the Resilient, Overcontrolled, Undercontrolled, Reserved, and Ordinary profiles.

Method

Participants

The present study utilized a data set from the ongoing Finnish Jyväskylä Longitudinal Study of Personality and Social Development (JYLS), where the same individuals have been followed up since 1968 (Pulkkinen, 2006, 2009). All the participants who were employed during the most recent data collection wave at age 50 in 2009 and who had participated in a semi-structured psychological interview including self-report questionnaires on occupational well-being, were included in the present analyses. Altogether, 183 participants, 93 men and 90 women, met these criteria and for all but one participant information was also available on the Big Five personality profiles. Of these participants, 21% were blue-collar, 46% lower white-collar, and 33% upper white-collar workers, and the participants worked 40.42 hours per week on average (*SD* = 9.08).

The original sample in 1968 consisted of 369 pupils (196 boys and 173 girls, most of whom were born in 1959) attending 12 randomly selected urban and suburban second-grade school classes in the City of Jyväskylä; the classes participated in their entirety at the onset, forming the initial sample. Later in adulthood, the same sample, with a response rate of 73% of the initial sample at age 50 (Pulkkinen & Kokko, 2012), has continued to be representative both of the initial sample in socio-emotional behavior and school success at school age, and of the age cohort born in 1959 in Finland according to gender, marital status, number of children, and employment status (Pulkkinen, 2006; Pulkkinen & Kokko, 2010).

For the attrition analyses, the initial sample (*n* = 369) was classified into the following four groups: 1) "included participants" (*n* = 183, 49.6%); 2) "employed, but excluded participants" (*n* = 44, 11.9%), who at the age 50 data collection returned the mailed life situation questionnaire but did not attend the psychological interview, including self-report questionnaires on occupational well-being; 3) "non-employed participants" (*n* = 43, 11.7%), who, owing, for example, to unemployment, receipt of a disability pension or long-term leave of absence, were not part of the workforce at the age 50 data collection; and 4) "age 50 drop-outs" (*n* = 99, 26.8%), who had died (12 persons), declined to participate in the JYLS either at age 50 or earlier (34 persons), did not respond to the invitation to participate at age 50 (46 persons), or who could not be contacted at age 50 (7 persons).

The attrition analyses showed that these groups did not differ from each other in gender, $\chi^2(3) = 5.18$, $p = .16$, or in in socio-emotional behavior at age 8, that is, in teacher rated social activity, $F(3, 368) = 0.85$, $p = .47$, high self-control of emotions, $F(3, 368) = 0.56$, $p = .64$, or low self-control of emotions, $F(3, 368) = 1.16$, $p = .32$. At age 14, the "included participants" had a higher grade point average (7.4, possible range from 4 to 10) than the "employed, but excluded participants" (7.0), $F(3, 345) = 3.90$, $p < .01$. At age 50, the "included participants" differed from the "employed, but excluded participants" in occupational status, $\chi^2(2) = 17.40$, $p < .001$. According to the sample distribution, the "included participants" were more typically upper white-collar workers (adj. res. 2.9) and the "employed, but excluded participants" blue-collar workers (adj. res. 3.9). However, there was no difference between the two groups in weekly working hours, $t = 1.89$, $p = .06$.

Procedure and Measures

To measure employee occupational well-being in terms of activation and pleasure, we used the scales of job exhaustion, work engagement, workaholism, and job satisfaction. All four measures, described below, were assessed when the participants were age 50. For personality traits, described after the occupational well-being measures, the participants filled in self-report questionnaires at ages 33, 42 and 50.

Job exhaustion was measured with four items from the Maslach Burnout Inventory (Maslach & Jackson, 1986): "I feel emotionally drained from my job", "I feel burned out from my job", "I feel tired when I get up in the morning and have to face another day at the job" and "I feel used up at the end of the workday". The selected four items were the most prototypical for burnout from the original scale owing to constraints in questionnaire length. The response scale ranged from 1 = *never* to 6 = *always*, and Cronbach's alpha coefficient for the scale was .79.

Work engagement was measured with the 9-item version of the UWES (Schaufeli, Bakker, & Salanova, 2006). Each subdimension was assessed with three items: vigor (e.g., "At my work, I feel bursting with energy"), dedication (e.g., "I am enthusiastic about my job"), and absorption (e.g., "I get carried away when I'm working"). The response scale ranged from 1 = *never* to 7 = *every day*, and Cronbach's alpha for the whole instrument was .92.

Workaholism was measured with the 10-item DUWAS scale (Schaufeli et al., 2008; Schaufeli et al., 2009), which includes the subdimensions of working excessively (5 items, e.g., "I find myself continuing to work after my co-workers have called it quits") and working compulsively (5 items, e.g., "It's important to me to work hard even when I don't enjoy what I'm doing"). The response scale ranged from 1 = *(almost) never* to 4 = *(almost) always*, and Cronbach's alpha coefficient for the scale was .78.

Job satisfaction was measured with one item: "Generally speaking, how satisfied are you with your current job or employment situation?" A similar item is included e.g., in Hackman and Oldham's (1980) Job Diagnostic Survey. The minimum reliability for the single-item job satisfaction measure has been found to be between .45 and .69 (for meta-analysis, see Wanous, Reichers, & Hudy, 1997). The response scale ranged from 1 = *extremely dissatisfied* to 4 = *extremely satisfied*.

Each of the Big Five personality traits – neuroticism (e.g., "When I´m under a great deal of stress, sometimes I feel like I´m going to pieces"), extraversion (e.g., "I am a cheerful, high-spirited person), openness (e.g., "I am intrigued by the patterns I find in art and nature"), agreeableness (e.g., "I would rather cooperate with others than compete with them"), and conscientiousness (e.g., "I have a clear set of goals and work toward them in an orderly fashion") – was measured by 12 items included in the 60-item version of the 180-item Big Five Personality Inventory (Kokko, Tolvanen, & Pulkkinen, 2013; Pulver, Allik, Pulkkinen, & Hämäläinen, 1995). The shortened version of the scale is an authorized adaptation of the NEO Personality Inventory (NEO-PI; Costa & McCrae, 1985). In the 60-item version, only three of the Finnish items are substitutes for the original American items. The modified items did not change the content of the trait scales (Pulver et al., 1995). The response scale ranged from 1 = *strongly disagree* to 5 = *strongly agree*. Cronbach's alpha coefficients ranged from .75 to .88 for the Big Five variables.

From these variables, Big Five personality profiles across ages 33, 42, and 50 (see Figure 2) were constructed using latent profile analysis (for details see Kinnunen et al., 2012). This aggregate five-category Big Five personality profile variable was used in the present study because it covers and combines the information from all the Big Five traits across adulthood for the present participants. The earlier study among the current study participants has shown that all Big Five traits possessed very high rank-order stability over time (.65-.97; Rantanen, Metsäpelto, Feldt, Pulkkinen, & Kokko, 2007), thus supporting the use of these aggregate personality profiles. Category 1 denoted the Resilient profile (21%, *n* = 65), low in neuroticism and high in all the other traits, category 2 the Overcontrolled profile (13%, *n* = 40), high in neuroticism and low in the remaining traits, category 3 the Reserved profile (8%, *n* = 25), high in conscientiousness and low in all the other traits, category 4 the Undercontrolled profile (13%, *n* = 41), low in conscientiousness and high in extraversion and openness, and category 5 the Ordinary profile (44%, *n* = 133), on an intermediate level in all traits (see Kinnunen et al., 2012).

Data Analysis

In the first stage, confirmatory factor analysis (CFA) was used to ensure that each of the occupational well-being variables represented unique psychological constructs. A correlated four-factor model was estimated where the items for job exhaustion, work engagement, workaholism and job satisfaction loaded only on the intended latent factors. To estimate the latent factor for single item job satisfaction, the loading was set to one and the residual variance fixed to zero. The four-factor model was compared against the one-factor model. The comparisons were performed by using the Satorra-Bentler χ^2 difference test (Satorra & Bentler, 2001). Model fit was evaluated using the χ^2 test. In addition, two practical model fit indices were also used: Root Mean Square Error of Approximation (RMSEA) and Comparative Fit Index (CFI). For RMSEA, values of 0.05 or less indicate a good fit, values of 0.06 – 0.08 a reasonable fit, and values $\geq$ 0.10 a poor fit (Hu & Bentler, 1999; Kline, 2005). For CFI, values $\geq$ 0.90 indicate a good fit.

In the second stage, Latent Profile Analysis (LPA), a type of finite mixture analysis, was used to identify naturally occurring homogeneous latent classes differing in their level of job exhaustion, work engagement, workaholism and job satisfaction (see Muthén, 2001; Muthén & Muthén, 1998–2010). Various criteria were used to determine the adequate number of latent classes (Muthén, 2003; Nylund, Asparouhov, & Muthén, 2007): (a) the Bayesian Information Criterion (BIC); (b) classification quality as determined by entropy values (Celeux & Soromenho, 1996); and (c) the Bootstrap Likelihood Ratio Test (BLRT). The BLRT compares solutions with different numbers of latent classes with each other. In this test, a significant *p* value (*p* < .05) indicates that the *k* classes model has to be rejected in favor of a model with at least *k+1* classes. To further investigate the differences between the identified types in the separate indicators of occupational well-being, Univariate Analysis of Variance (ANOVA) was used. ANOVA was also used to examine the differences between the types of occupational well-being identified in each single Big Five personality trait.

Table 1.
Correlations of the study variables.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Gender (1 = women, 2 = men)																					
2. Working hours per week	.26																				
3. Occupational status (1 = blue-collar, 3 = upper white-collar)	-.21	-.03																			
4. Neuroticism (age 33)	-.04	.00	-.28																		
5. Extraversion (age 33)	-.11	.04	.17	-.27																	
6. Openness (age 33)	-.30	-.08	.32	-.03	.29																
7. Agreeableness (age 33)	-.25	-.07	.12	-.20	.19	.20															
8. Conscientiousness (age 33)	-.09	-.09	-.09	-.21	.04	-.18	-.05														
9. Neuroticism (age 42)	.00	.00	.00	.59	-.27	-.12	-.22	-.11													
10. Extraversion (age 42)	-.05	-.05	-.05	-.20	.69	.34	.24	.00	-.44												
11. Openness (age 42)	-.27	-.27	-.27	-.14	.28	.83	.22	-.13	-.18	.40											
12. Agreeableness (age 42)	-.18	-.18	-.18	-.10	.19	.15	.67	-.12	-.22	.24	.21										
13. Conscientiousness (age 42)	-.13	-.13	-.13	-.21	.07	-.14	-.01	.60	-.23	.03	-.06	-.02									
14. Neuroticism (age 50)	-.03	-.03	-.03	.65	-.20	-.16	-.32	-.23	.72	-.37	-.21	-.21	-.19								
15. Extraversion (age 50)	-.06	-.06	-.06	-.17	.61	.31	.33	.04	-.39	.74	.33	.25	.02	-.43							
16. Openness (age 50)	-.21	-.21	-.21	-.16	.28	.74	.27	-.05	-.18	.37	.81	.14	-.11	-.31	.45						
17. Agreeableness (age 50)	-.22	-.22	-.22	-.11	.19	.21	.68	.00	-.21	.23	.26	.73	.10	-.29	.31	.32					
18. Conscientiousness (age 50)	-.17	-.17	-.17	-.11	.12	-.11	.04	.65	-.12	.11	.00	.01	.73	-.18	.12	-.05	.17				
19. Job exhaustion (age 50)	-.05	-.05	-.05	.36	-.15	-.11	-.14	-.10	.43	-.18	-.08	-.09	-.19	.55	-.20	-.11	-.15	-.14			
20. Work engagement (age 50)	-.17	-.17	-.17	-.24	.29	.23	.28	.12	-.26	.29	.20	.15	.12	-.39	.40	.37	.31	.15	-.32		
21. Workaholism (age 50)	-.03	-.03	-.03	.09	.04	-.01	.00	.07	.08	.13	.03	-.05	.09	.16	.14	-.01	.00	.11	.36	.09	
22. Job satisfaction (age 50)	-.02	-.02	-.02	-.05	.10	.02	.16	.22	-.16	.05	.01	.11	.21	-.15	.11	.09	.11	.15	-.21	.39	.02

Note. $r \geq |.28|$, $p < .001$

Table 2

Fit Indices for the Five Estimated Solutions of Latent Classes of Occupational Well-being (n = 183)

Group-solution	Log-likelihood	BIC	Entropy	BLRT p value	Average latent group probabilities	Number of participants in each group
1	-736.29	1514.25	-	-	1.00	183
2	-697.50	1462.73	.91	.000	.94, .98	24, 159
3	-579.06	1251.89	1.00	.000	1.00, 1.00, 1.00	17, 54, 112
4	-565.57	1250.96	.97	.000	.88, .98, 1.00, 1.00	13, 99, 17, 54
5	-558.26	1262.39	.92	.073	.87, 1.00, .86, .95, 1.00	9, 17, 14, 89, 54

Note. BIC = Bayesian information criterion, BLRT = bootstrap likelihood ratio test.

In the third stage, the relationship between the longitudinal Big Five personality profiles and the identified types of occupational well-being was investigated with the χ^2 test and adjusted residuals. Adjusted residuals above +/-2 are considered to indicate statistically significant dependency.

Results

Descriptive Results

The intercorrelations between the study variables are shown in Table 1. Job exhaustion correlated strongly and positively with neuroticism but also negatively with extraversion. Work engagement correlated negatively with neuroticism and positively with extraversion, openness and agreeableness. Workaholism correlated weakly but significantly and positively with neuroticism and job satisfaction correlated positively with conscientiousness (see Table 1).

Construct Validity of the Occupational Well-being Indicators

The CFAs showed that the correlated four-factor model for job exhaustion, work engagement, job satisfaction, and workaholism had a satisfactory fit to the data, $\chi^2(243) = 422.60$, $p < .001$, RMSEA = .06, CFI = .89. In this model, three error covariances between the work engagement items and one error covariance between the workaholism items were estimated. It was not necessary to estimate any cross-loadings or error covariances between items from different scales, and the Satorra-Bentler scaled χ^2 difference test showed that the correlated four-factor model was significantly better than the alternative one-factor model, $\chi^2\Delta(5) = 3190.16$, $p < .001$. The correlations between the latent factors of occupational well-being were the following: Job exhaustion correlated positively with workaholism (.41, $p < .001$), and negatively with work engagement (-.40, $p < .001$), and job satisfaction (-.24, $p < .01$). Work engagement correlated positively with job satisfaction (.42, $p < .001$) while the correlation with workaholism (.10) was non-significant, as also was the correlation between job satisfaction and workaholism (.05). Together, these findings

confirmed that job exhaustion, work engagement, job satisfaction, and workaholism were distinct occupational well-being indicators.

Types of Occupational Well-being

The LPA analyses revealed that the four-class solution showed the best fit to the data (see Table 2). The BIC and the BLRT tests, which have proven to be the most consistent goodness-of-fit indicators of latent classes (Muthén, 2006; Nylund et al., 2007), supported a four-class solution, which therefore was chosen for the subsequent analyses. The four-class solution is illustrated in Figure 3. The group differences, based on Bonferroni pairwise comparisons, are presented in the note below Figure 3. Notably, the groups did not differ from each other in workaholism.

In total, 30% ($n = 54$) of the participants belonged to the type characterized by activation and pleasure and possessing high levels of work engagement and job satisfaction together with low levels of job exhaustion. This type was labeled *Engaged*. The type with largest membership ($n = 99, 54\%$) was characterized by average levels of activation and pleasure, i.e., average levels of work engagement and job satisfaction and a low level of job exhaustion, and hence was labeled *Ordinary*. The third type was labeled *Bored-out* ($n = 17, 9\%$). Employees belonging to this type reported displeasure as well as deactivation, scoring low on job satisfaction and work engagement and relatively high on job exhaustion. The final and fourth type contained 7% ($n = 13$) of the participants. This group also showed displeasure and deactivation, but compared with the Bored-out type, the levels of job exhaustion were very high and the level of work engagement very low. It was thus labeled *Burned-out*. As two out of the four predicted occupational well-being types were found, our first hypothesis was partially supported (see Figure 1).

The sample descriptive statistics revealed no statistically significant differences between the occupational well-being types in either gender, $\chi^2(3) = 2.57$, $p = .46$, weekly working hours, $F(3, 175) = 1.40$, $p = .24$, or occupational status, $\chi^2(6) = 7.39$, $p = .23$. According to the adjusted residuals (2.3), however, more blue-collar workers tended to be in the *Burned-out* type than in the other occupational well-being types.
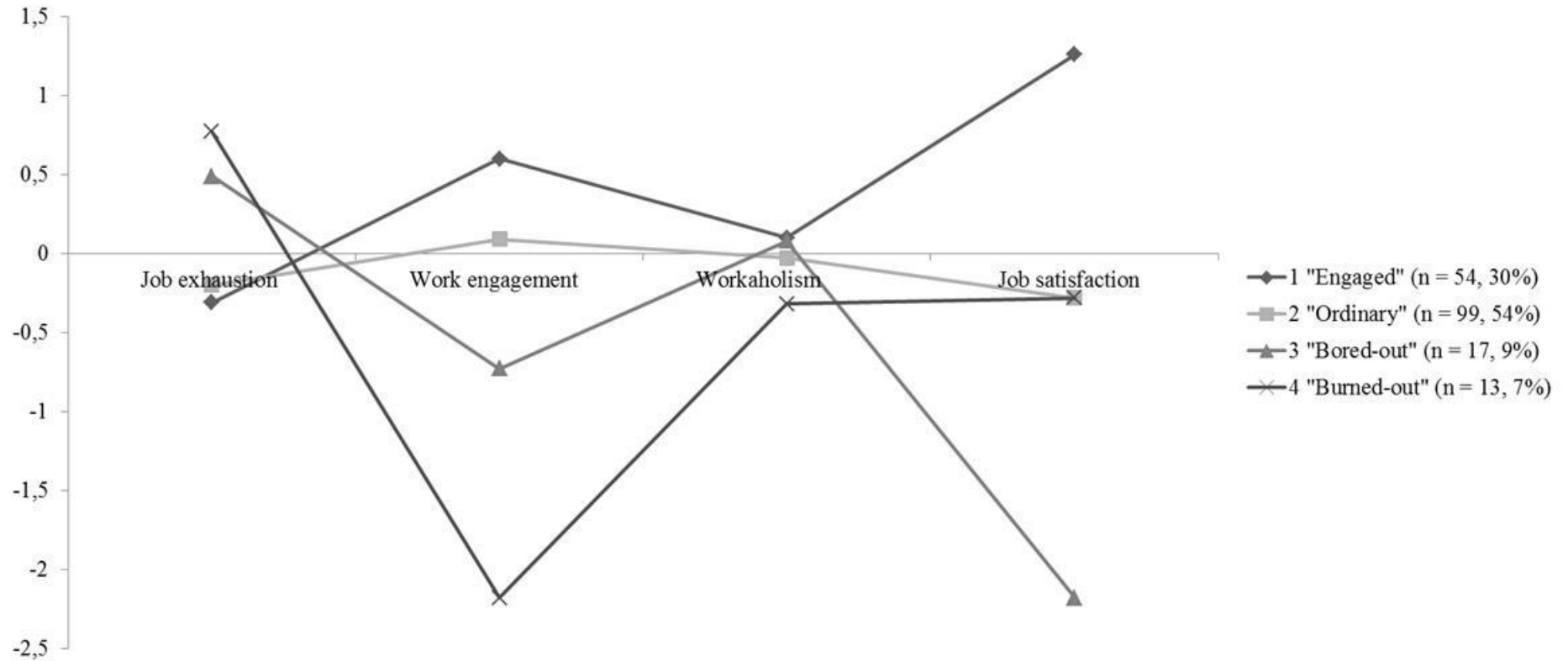
Figure 3. *Identified Types of Occupational Well-being and Their Standardized Means in Each Indicator.*

Note. ANOVA was used to test the mean differences in each of the four occupational well-being indicators between the occupational well-being types. ANOVA for job exhaustion: $F(3, 179) = 6.15$, $p < .01$, $1 < 3, 4$ (Bonferroni pairwise comparisons, $p < .05$). ANOVA for work engagement: $F(3, 178) = 60.12$, $p < .001$, $1 > 2 > 3 > 4$ (Bonferroni pairwise comparisons, $p < .001$). ANOVA for workaholism: $F(3, 178) = 0.70$, $p = .55$. ANOVA for job satisfaction: $F(3, 179) = 1443.29$, $p < .001$, $1 > 2, 4 > 3$ (Bonferroni pairwise comparisons, $p < .001$).

Table 3

Interdependency between the Types of Occupational Well-being and the Big Five Personality Profiles (n = 182)

Occupational Well-being Types	Resilient N Adj. res	Overcontrolled N Adj. res	Reserved N Adj. res	Undercontrolled N Adj. res	Ordinary N Adj. res	Total N
Engaged	22	4	2	6	20	54
	3.5	-0.1	-1.2	-1.3	-1.4	
Ordinary	19	3	8	15	53	98
	-1.5	**-2.5**	0.6	-0.5	**2.6**	
Bored-out	2	3	1	7	4	17
	-1.2	1.6	-0.2	**2.9**	-1.9	
Burned-out	0	4	2	2	5	13
	-2.1	3.2	1.2	-0.1	-0.5	
	43	14	13	30	82	182

Note. Adj. res = adjusted residuals, those marked with bold indicate interdependency between the occupational well-being types and the Big Five personality profiles

Occupational Well-being Types and Personality Profiles

The substantial and statistically significant, $\chi^2(12) = 34.79$, $p < .001$, interdependency between the occupational well-being types and Big Five personality profiles was found and was confirmed with the Exact test and Monte Carlo method. As can be inferred from the adjusted residuals in Table 3, the participants with the Resilient personality profile were typically located in the Engaged type, and thus Hypothesis 2 was supported. The participants with the Overcontrolled personality profile were typically located in the Burned-out type, thereby supporting Hypothesis 4. The participants with the Ordinary personality profile were typically located in the unexpected Ordinary type of occupational well-being, while those with the Undercontrolled profile were typically located in the Bored-out type. Hypothesis 3 was not supported, since, as expected, the Satisfied type did not emerge in our dataset.

To see whether examination of the Big Five personality profiles, that is, qualitatively different constellations of these traits among individuals containing information across all three measurement points produces more information about the personality-related linkage of the occupational well-being types than single Big Five personality traits, we also used ANOVA. Thus, we analyzed how the occupational well-being types identified differed from each other in each trait at each age. At age 33, the Engaged type was higher in conscientiousness than the Bored-out type, $F(3, 144) = 3.24$, $p = .02$, pairwise Bonferroni comparison $p < .05$. There were no significant differences at age 42. At age 50, the Burned-out type was higher in neuroticism than either the Engaged or Ordinary types, $F(3, 172) = 7.17$, $p < .001$, pairwise Bonferroni comparisons $p < .001$ and $p < .01$, respectively. The Engaged type was higher in extraversion, $F(3, 172) =$

3.31, $p < .05$, pairwise Bonferroni comparison $p < .05$, and openness, $F(3, 172) = 2.74$, $p = .04$, pairwise Bonferroni comparison $p < .05$, than the Burned-out type.

Discussion

The first aim of the present study was to investigate occupational well-being types based on the circumplex model (Bakker & Oerlemans, 2011; Russell, 1980; Warr, 1994). The person-oriented analysis revealed four occupational well-being types: Engaged, Burned-out, Ordinary and Bored-out. Two of these, namely Engaged and Burned-out, were characterized by expected combinations of the activation and pleasure dimensions of the circumplex model, and thus were in line with Hypothesis 1. Engaged employees were characterized by high levels of work engagement and job satisfaction together with low levels of job exhaustion. The occupational well-being pattern among the Burned-out employees was the reverse. Well-being types similar to these two have been found earlier in studies with varying study designs and occupational groups (Mäkikangas et al., 2014; Mäkikangas, Schaufeli et al., 2013; Salanova et al., 2014). These types could, therefore, be argued to be representative rather than job-specific. In addition, these two types support the assumptions of the circumplex model, especially underlying its enthusiasm-depression axis (Warr, 1994), also known as the energy-dimension in burnout-work engagement research (Demerouti, Mostert, & Bakker, 2010; González-Romá, Schaufeli, Bakker, & Lloret, 2006; Mäkikangas, Feldt, Kinnunen, & Tolvanen, 2012; Mäkikangas et al., 2014).

Alongside the Engaged and Burned-out types, we found two other unexpected occupational well-being types, which we labeled Ordinary and Bored-out. The Ordinary type,

with average levels in each of the four well-being indicators, comprised over half of the studied participants (54%), and thus represented the most typical group of employees. A similar type was also identified by Salanova et al. (2014), who gave it the label '9-to-5'. Well-being types with characteristics resembling the Ordinary type have previously been reported under different labels, such as "non-workaholic/non-engaged" (Van Beek et al., 2011). Salanova et al. (2014) underlined the importance of the 9-to-5/ordinary employee type, because it represents the average level of occupational well-being that employees typically report, as was also the case in the present study. The well-being of this type of employee is mildly positive, and thus supports the positive psychology viewpoint that the majority of employees feel relatively well, with few, if any extreme experiences of well-being (see Gable & Haidt, 2005; Mäkikangas, Hyvönen, Leskinen, Kinnunen, & Feldt, 2011).

A new type that we labeled Bored-out was also found in the present study. Recently, boredom in the work context has been characterized by low arousal and high dissatisfaction (Reijseger et al., 2013) which accords well with the Bored-out occupational well-being type found in the present study. Although this occupational well-being concept is recognized and acknowledged in the literature (Reijseger et al., 2013; Schaufeli & Salanova, 2014), it has not been discussed in the context of the circumplex model (Bakker & Oerlemans, 2011). This state of low arousal and dissatisfaction needs to be separated from burnout, despite its apparent close resemblance to the cynicism dimension of burnout. Clearly, the Bored-out occupational well-being type requires further investigation and replication in other samples.

In the present study, the scores for workaholism did not differ between the occupational well-being types, and thus, the expected workaholic type did not emerge. This is an interesting result, as the Workaholic type was found by both van Beek et al. (2011) and Salanova et al. (2014). These different findings could be an outcome of the different statistical methods used, e.g., the results of van Beek et al. (2011) were not based on a rigorous testing of group membership but instead on predefined criteria (i.e., mean split). In addition, cluster analysis more easily generates different types/groups than more advanced methods, such as LPA. Based on a more advanced statistical approach (i.e., Growth mixture modeling), Mäkikangas, Schaufeli et al. (2013) recently found among Finnish managers - in line with the present findings - that the scores for workaholism did not discriminate between the study participants. The narrow range of the workaholism response scale could be also one reason for the small variance. On the other hand, in comparison with the other constructs of the circumplex model, workaholism could be argued to represent a behavioral tendency more than an affective response to one's job. Thus, affective states, such as anxiety, tension or uneasiness, might characterize the high activation, low pleasure experiences of occupational well-being in the circumplex model more clearly than workaholism, as presented in Warr's (1994) model. Such states could also be argued to be the opposite of job satisfaction, in line with the contentment-anxiety axis of the circumplex model (Warr, 1994), rather than workaholism.

The second aim of the present study was to investigate how the personality profiles formed from the Big Five personality traits by Kinnunen et al. (2012) were linked with the occupational well-being types that emerged from the data. A notable finding was that the occupational well-being types found did not differ either in background characteristics (i.e., gender, working hours, occupational status) or, systematically, in the single Big Five traits. Instead, it is the combination of traits as a whole that is crucial, as the strong interdependency between the Big Five personality profiles and the occupational well-being types found in this study showed.

As predicted, the Resilient personality profile was the most favorable for occupational well-being: Resilient individuals typically belonged to the Engaged type, thus supporting Hypothesis 2. In line with Hypothesis 4, the Overcontrolled profile was the most unfavorable, associating with the Burned-out type, whereas the Ordinary personality profile was typically linked with the Ordinary well-being type. A notable observation was that, among both the Resilient and Ordinary individuals, the levels of neuroticism were low and the levels of extraversion and conscientiousness were high, while the reverse pattern was evident among the Overcontrolled employees (Kinnunen et al., 2012). The pattern of personality traits evident in the Resilient and Ordinary profiles seems to overlap with the General Personality Factor (GPF), which is known to represent the most favorable personality trait combination for well-being (Van der Linden, Te Nijenhuis, & Bakker, 2010).

Applying the alpha/beta-factor approach (Digman, 1997), the links (or lack of them) between the personality profiles and occupational well-being types becomes understandable. First, the Reserved personality profile (i.e., high level of conscientiousness but low levels of extraversion and other of the Big five traits) did not clearly associate with any of the occupational well-being types. Hence, to be linked with favorable occupational well-being outcomes, conscientiousness needs to be associated with the other alpha factor traits (Digman, 1997), as in the Resilient or Ordinary profiles. Similarly, high levels of the beta factor traits, e.g., extraversion and openness to experience (Digman, 1997), are not enough by themselves to produce high levels of occupational well-being, if they are associated with low levels of conscientiousness, as in the Undercontrolled profile. The Undercontrolled individuals typically belonged to the Bored-out type. The tendency for self-growth, actualization and challenges of Undercontrolled employees might trigger general feelings of not being satisfied with the current work situation. Dissatisfaction with the current job has

been described as one of the major predictors of boredom at work (Reijseger et al., 2013).

Study Limitations

Several issues should be considered when evaluating the present findings. First, the study data consisted of sample of 50-year-old employees. The participants thus had long working careers and also relatively stable work and family situations (Pulkkinen & Kokko, 2010). The attrition analyses showed that the study participants tended more often to be white-collar than blue-collar workers. Together, these considerations might have contributed to the relatively high levels of occupational well-being states (i.e., high levels of work engagement and job satisfaction) found in this study. Second, in addition to personality, it would also be important in future studies to take job characteristics (such as physical and mental demands) into account and investigate their linkages with occupational well-being types. Third, although well-known and valid scales were used to measure occupational well-being, job satisfaction was measured with a single item, and only one dimension (i.e., job exhaustion) was used to measure burnout. To further investigate the circumplex model, studies utilizing whole scales of occupational well-being indicators are needed (e.g., specific job satisfaction, total burnout, different workaholism scales).

Conclusions

This study importantly enlarged our knowledge on occupational well-being and its intra-individual constellations. Using a different statistical method and sample, we replicated the occupational well-being types of Engaged, Burned-out, and Ordinary workers found previously (Salanova et al., 2014). In addition, a new type, Bored-out, was also found, which well describes the expectations of today's employees for self-actualization at work and their dissatisfaction if these expectations are not met. In sum, the results of the study by demonstrating the value of the person-oriented approach as a methodological tool for studying and understanding occupational well-being, holds great promise for future studies. The circumplex model (Russell, 1980), and its applicability to the work context (Bakker & Oerlemans, 2011), also offers new opportunities for research on occupational well-being in both theory and practice. Investigation of the multifaceted nature of occupational well-being states should be continued, and work done to identify the specific consequences of different well-being profiles. The linkages between occupational well-being types and job performance as well as different career outcomes (e.g., retirement age) would be interesting research targets.

The study also highlighted the importance of investigating and understanding personality as a whole, when exploring its links with occupational well-being. Personality plays a key role in how one behaves, reacts and relates to others in life in general and, more specifically, in the work context. This study further confirmed that personality is strongly associated with occupational well-being. Based on this study, it is essential to increase person-job fit in practice (Edwards, 1991), for example via vocational guidance and deliberated requirements, as well as by modifying jobs to fit the employee. Awareness of one's personality and one's typical ways of appraising and reacting in situations might also be beneficial from the person-job fit perspective. However, in view of the relation of correspondence that subsists between personality and work experiences throughout the life course, the nature of environmental factors that have the potential to create strain for individuals in workplaces (e.g., time pressures) should not neglected. Therefore, a healthy work environment should also be promoted.

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