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**JOB CRAFTING STRATEGIES AT WORK**

Enabling continuous learning and well-being  
by balancing job demands and job resources

Terhi Nissinen

ACADEMIC DISSERTATION

Doctoral dissertation, to be presented for public discussion with the permission of the Faculty of Educational Sciences of the University of Helsinki, in Auditorium Suomen Laki, University Main Building, on the 16th of November 2024 at 12 o'clock.

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**Abstract**

The overall aim of this dissertation was to investigate multifaceted job crafting strategies in various working life contexts by using both variable- and person-oriented methods. Job crafting was defined as changing some aspects of work by balancing job demands and job resources (Tims & Bakker, 2010), and it was operationalized by using four original job crafting dimensions (as variables named by Tims *et al.*, 2012): *increasing structural job resources* (e.g., developing one's own competencies or job autonomy), *increasing social job resources* (e.g., asking for feedback or advice), *increasing challenging job demands* (e.g., seeking new challenges or interesting projects), and *decreasing hindering job demands* (e.g., reducing working hours or limiting emotionally draining meetings). Three of these increasing job crafting strategies were later labelled *approach-oriented* strategies, and the one with the aim of decreasing demands was labelled *avoidance-oriented* job crafting (Zhang & Parker, 2019).

Study I applied a variable oriented approach and used structural equation modeling to examine how job crafting strategies were interconnected and how they were associated with work engagement and workaholism. Work engagement refers to a long-lasting positive psychological state of well-being and work-related fulfillment of vigor, dedication, and absorption (Schaufeli & Bakker, 2004; Schaufeli *et al.*, 2006). Workaholism is a compulsive attitude about work, which may have negative consequences for employees' health and work performance (Gillet *et al.*, 2018; Shimazu *et al.*, 2015). The approach-oriented job crafting strategies were associated with each other, and decreasing hindering job demands was not associated with other job crafting strategies. The results showed that the job crafting strategy aiming at increasing structural job resources was positively associated with work engagement. Decreasing hindering job demands, in turn, was negatively associated with workaholism, which indicated that it may be a valuable strategy for preventing the risk of employee health impairment.

Study II explored what kinds of latent job crafting profiles could be identified among public sector employees who represented various occupations from three separate organizations. Using a person-oriented approach, I identified three job crafting profiles: *Active crafters*, *Average crafters*, and *Passive crafters*. Active crafters reached the highest values in all approach-oriented job crafting and the lowest in avoidance-oriented job crafting, whereas passive crafters reached the mean level only in avoidance-oriented job crafting. Average crafters were the largest profile and used all job crafting strategies at an average level. Further, I examined how job crafting profiles differed in terms of work engagement, workaholism, and the reflective-collaborative epistemic approach. I introduced a new variable in job crafting research: the epistemic approach (or theory) refers to a collection of beliefs about knowledge, knowing, and learning, and it also colors the way people see their environment related to such matters e.g., how people approach tasks related to learning (Lonka *et al.*, 2021). It was expected that reflective-collaborative epistemic approach would be related to employees' job crafting and workplace learning as kind of approach consists of beliefs of reflection, metacognition, and collaborative knowledge creation (Lammasaari *et al.*, 2022; Lonka *et al.*, 2021). The results revealed that all profiles differed significantly regarding work engagement: Active crafters showed the highest work engagement and average crafters showed higher work engagement than passive crafters. Average and active crafters scored higher in workaholism and reflective-collaborative epistemic approach than passive crafters. These findings indicate that job crafting frequency and strategy combination has an important role for well-being, and that a reflective-collaborative epistemic approach may act as a personal resource that promotes favorable job crafting. Overly active job crafting, in turn, may increase the risk of workaholism.

Study III explored school principals' latent job crafting profiles and whether these profiles differed in terms of servant leadership, COVID-19-related stress, and work meaningfulness. Servant leadership is manifested as an approach to leadership by empowering and taking care of others (van Dierendonck, 2011; Greenleaf, 1977). COVID-19-related stress represents school principals' stress and concern over the school management and the well-being of school community during the COVID-19 crisis (Upadyaya *et al.*, 2021). Work meaningfulness refers to a positive psychological state associated with work motivation (Rosso *et al.*, 2010), growth, and purpose-oriented focus on work (Steger *et al.*, 2012). Two job crafting profiles appeared: *Active crafters* and *Average crafters*. Active crafters were the largest profile, manifesting more frequent approach-oriented job crafting, and less avoidance-oriented job crafting than average crafters. Further

analyses showed that active crafters expressed servant leadership more often, and they also experienced higher COVID-19-related stress concerning well-being and a high level of work meaningfulness. Average crafters, on the other hand, may have suffered more from lack of psychological resources during the pandemic, which then could have resulted in fewer job crafting opportunities. It is noteworthy that Study III was conducted during the prolonged COVID-19 pandemic in spring 2021, when principals experienced heavy workloads. Therefore, these profile findings present a novel perspective when reflecting them in the light of previous research, which suggests that in heavy workload situations, individuals often decrease their job demands (Hobfoll, 1989).

By acknowledging the possible negative side that job crafting may have (workaholism, stress), these results imply that the awareness of different job crafting combinations and crafting frequency may become fundamentally important as employees seek to balance their job demands and resources. The dissertation findings indicate, in line with JD-R theory (Bakker *et al.*, 2007), that job characteristics may affect what resource combinations have buffering impacts on work demands and further to stress.

Although job crafting has been widely studied, this dissertation presents several important findings concerning job crafting, examining novel associations between job crafting and workaholism, as well as a positive relationship between active job crafting and the novel reflective-collaborative epistemic approach. Avoidance-oriented job crafting showed value in potentially decreasing workaholism, but the crafting frequency may have also played a role in workaholism. This dissertation's findings extend earlier research on the workplace learning research perspective (Harteis, 2022) and indicate a reflective-collaborative epistemic approach potentially serving as a workplace learning resource and having such a relationship with job crafting in which they may promote one another. In addition, the focus on school principals' behavior and experiences during a severe situation provided novel viewpoints from which to examine job crafting.

In conclusion, this dissertation examines how job crafting is associated with occupational well-being and with the meaning of work. It was found that it is not necessarily the levels of single job crafting strategies, but their combinations and the contextual factors that make job crafting potentially beneficial. Job crafting may serve as one key source for sustainable well-being and innovative growth of workplace learning for individuals and for organizations.

*Keywords:* job crafting, work engagement, workaholism, epistemic approach, servant leadership, COVID-19, stress, work meaningfulness, public sector, school principals

## **Työn muokkaamisen strategiat**

Jatkuva oppiminen ja hyvinvointi työssä

mahdollistuu tasapainottamalla työn vaatimuksia ja voimavaroja.

### **Tiivistelmä**

Tämän väitöskirjan yleisenä tavoitteena oli tutkia monitahoisia työn muokkaamisen strategioita erilaisissa työelämän konteksteissa käyttäen sekä muuttuja- että henkilösuuntautuneita tutkimusmenetelmiä. Työn muokkaaminen määriteltiin työtehtävän muuttamiseksi tasapainottamalla työn vaatimuksia ja voimavaroja (Tims & Bakker, 2010), ja se operationalisoitiin käyttämällä neljää alkuperäistä työn muokkaamisen strategiaa (Tims ym., 2012). Neljä työn muokkaamisen strategiaa ovat työn rakenteellisten voimavarojen lisääminen (esim. oman osaamisen kehittäminen tai työautonomian lisääminen), työn sosiaalisten voimavarojen lisääminen (esim. palautteen tai neuvojen pyytäminen), työn haasteiden lisääminen (esim. uusien ammatillisten haasteiden tai mielenkiintoisten projektien etsiminen) ja työtä haittaavien vaatimusten vähentäminen (esim. työaikojen lyhentäminen tai tunteita kuormittavien kokousten välttäminen). Kolmea aktiivista työn muokkaamisen strategiaa on myöhemmin alettu kutsua oppimis- ja kehittämisorientoituneiksi strategioiksi, ja yhtä kuormituksen vähentämiseen tähtäävä strategiaa välttämisorientoituneeksi työn muokkaamiseksi (Zhang & Parker, 2019).

Ensimmäinen osatutkimus oli muuttujalähtöinen. Tutkin rakennemallien avulla, miten työn muokkaamisen strategiat olivat yhteydessä keskenään, ja miten strategiat liittyivät työn imuun ja työholismiin. Työn imu viittaa pitkäkestoiseen positiiviseen psyykkiseen hyvinvointitilaan ja työhön liittyvään kiinnostumiseen, joka ilmenee energisyytenä, omistautumisena ja uppoutumisena (Schaufeli & Bakker, 2004; Schaufeli ym., 2006). Työholismi puolestaan edustaa pakonomaista asennetta työhön ja sillä voi olla negatiivisia vaikutuksia työntekijöiden terveyteen ja työsuoritukseen (Gillet ym., 2018; Shimazu ym., 2015). Oppimis- ja kehittämisorientoituneet työn muokkaamisen strategiat olivat yhteydessä toisiinsa ja välttämisorientoitunut työn muokkaamisen strategia ei ollut yhteydessä muihin strategioihin. Tulokset osoittivat erityisesti työn rakenteellisten voimavarojen lisäämiseen tähtäävän strategian olevan positiivisessa yhteydessä työn imuun. Haitallisten työvaatimusten vähentäminen puolestaan oli negatiivisessa yhteydessä työholismiin, mikä viittasi siihen, että se voi olla arvokas strategia työntekijöiden terveyshaittojen ehkäisemisessä.

Toisessa osatutkimuksessa tarkastelin, millaisia työn muokkaamisen profiileja oli mahdollista tunnistaa julkisen sektorin työntekijöiden keskuudessa. Osallistujat edustivat erilaisia ammatteja kolmessa eri organisaatiossa. Lisäksi tutkin, miten työn muokkaamisen profiilit erosivat toisistaan työn imun, työholismin ja reflektiivis-yhteisöllisen episteemisen lähestymistavan suhteen. Esittelin uuden muuttujan työn muokkaamisen tutkimukseen: Episteeminen lähestymistapa viittaa yksilön uskomuksiin siitä, mitä tieto, tietäminen ja oppiminen ovat ja värittää ihmisten näkemyksiä siihen liittyvissä asioissa, kuten miten ihminen suhtautuu oppimista vaativiin tehtäviin (Lonka ym., 2021). Oletin, että reflektiivis-yhteisöllinen episteeminen lähestymistapa olisi yhteydessä työntekijöiden valmiuteen sekä muokata työtään että oppia työssään, koska tällainen episteeminen lähestymistapa kytkeytyy reflektion, metakognition ja yhteisöllisen tiedonluomisen arvostamiseen (Lonka, 1997; Lonka ym., 2021). Hyödyntämällä henkilösuuntautunutta lähestymistapaa pystyin tunnistamaan erilaisia työn muokkaamisen profiileja: *Aktiiviset työn muokkaajat*, *Keskitason työn muokkaajat* ja *Passiiviset työn muokkaajat*. Aktiiviset työn muokkaajat raportoivat korkeimpia arvoja kaikissa oppimis- ja kehittämisorientoituneissa työn muokkaamisen strategioissa ja matalimpia arvoja välttämisorientoituneessa työn muokkaamisen strategiassa, kun taas passiiviset muokkaajat raportoivat keskiarvon ylittävää työn muokkaamista ainoastaan välttämisorientoituneessa strategiassa. Keskitason työn muokkaajat edustivat laajinta profiilia, jossa käytettiin kaikkia työn muokkaamisen strategioita keskimääräisellä tasolla. Tulokset osoittivat, että kaikki työn muokkaamisen profiilit erosivat merkitsevästi työn imun suhteen: Aktiiviset työn muokkaajat ilmaisivat korkeinta työn imua ja keskitason työn muokkaajat puolestaan korkeampaa työn imua kuin passiiviset työn muokkaajat. Keskitasoiset ja aktiiviset työn muokkaajat saivat korkeammat arvot työholismissa ja reflektiivis-yhteisöllisessä episteemisessä lähestymistavassa kuin passiiviset muokkaajat. Nämä havainnot viittaavat siihen, että työn muokkaamisen aktiivisuudella ja strategiayhdistelmillä voi olla tärkeä rooli hyvinvoinnin edistäjinä. Tulokset viittaavat myös siihen, että reflektiivis-yhteisöllinen episteeminen lähestymistapa voi toimia henkilökohtaisena resurssina, joka edistää työn muokkaamista. Liian aktiivinen työn muokkaaminen voi kuitenkin lisätä riskiä työholismin kokemuksille.

Kolmannessa osatutkimuksessa tutkin suomalaisten koulujen rehtoreiden työn muokkaamisen profiileja ja sitä, erosivatko nämä profiilit palvelevan johtajuuden, COVID-19 liittyvän stressin ja työn merkityksellisyyden suhteen. Palveleva johtaja pyrkii voimauttamaan muita ja huolehtimaan heistä (van Dierendonck, 2011; Greenleaf, 1977).

Pandemiaan liittyvä stressi tässä tutkimuksessa kuvasi rehtoreiden COVID-19-kriisin aikaista stressiä ja huolta koulun toimintaan ja yhteisön hyvinvointiin liittyen (Upadyaya ym., 2021). Työn merkityksellisyys puolestaan viittaa positiiviseen psyykkiseen tilaan, joka liittyy työmotivaatioon (Rosso ym., 2010), kasvuun ja merkitysorientoituneeseen työhön suuntautumiseen (Steger ym., 2012). Tutkimuksessa löytyi kaksi työn muokkaamisen profiilia: *Aktiiviset työn muokkaajat ja Keskitason työn muokkaajat*. Aktiivisia työn muokkaajia oli enemmän, ja he ilmaisivat useammin oppimis- ja kehittämisorientoitunutta työn muokkaamista, mutta harvemmin välttämisorientoitunutta työn muokkaamista kuin keskitasoiset työn muokkaajat. Jatkoanalyysit osoittivat, että aktiiviset työn muokkaajat ilmaisivat useammin palvelevaa johtajuutta, he kokivat enemmän muiden huolehtimiseen liittyvää stressiä sekä vahvempaa työn merkityksellisyyttä kuin keskitasoisesti työtään muokkaavat. Keskitasoiset työn muokkaajat saattoivat COVID-19 pandemian aikana kärsiä enemmän psykologisten voimavarojen puutteista, mikä saattoi heidän kohdallaan johtaa vähäisempiin työn muokkaamisen mahdollisuuksiin. On huomionarvoista, että tämä kolmas osatutkimus suoritettiin pitkittyneen COVID-19-pandemian aikana keväällä 2021, jolloin rehtoreiden työmäärä oli korkea. Poikkeuksellisen ajanjakson takia nämä profiilitulokset tarjoavat uudenlaisen näkökulman erityisesti, kun niitä tarkastellaan aiempien tutkimusten valossa, joiden mukaan korkea työmäärä saa yksilöt usein vähentämään työn haittaavia vaatimuksiaan (Hobfoll, 1989).

Kokonaisuudessaan tämän väitöskirjan tutkimustulokset tunnustavat myös työn muokkaamisen mahdollisen haitallisen puolen (työholismi, stressi), ja viittaavat siihen, että tietoisuus erilaisista työn muokkaamisen strategiayhdistelmistä ja työn muokkaamisen aktiivisuudesta voi olla perustavanlaatuisen tärkeää, kun työntekijät pyrkivät tasapainottamaan työnsä vaatimuksia ja resursseja. Tämän väitöskirjan tulokset osoittavat, JD-R teorian mukaisesti (Bakker ym., 2007), että myös työn ominaispiirteet voivat olla yhteydessä siihen, mitkä voimavarayhdistelmät saattavat lieventää työn vaatimuksia ja edelleen stressiä.

Työn muokkaamista on tutkittu laajasti, mutta tämä väitöskirja esittää useita tärkeitä löydöksiä koskien työn muokkaamista, ja tarkastelee uusia yhteyksiä työn muokkaamisen ja työholismin välillä sekä positiivisia yhteyksiä työn muokkaamisen ja tuoreen reflektiivis-yhteisöllisen episteemisen lähestymistavan välillä. Tässä väitöskirjatutkimuksessa välttämisorientoituneella työn muokkaamisella nähdään arvo työholismin vähentämisessä, mutta huomionarvoista on myös muokkaamisen aktiivisuus, jolla voi olla rooli työholismiin liittyen. Tämän väitöskirjan tulokset laajentavat aiempaa tutkimusta työssä

oppimisen näkökulmasta (Harteis, 2022) ja osoittavat, että reflektiivis-yhteisöllinen episteeminen lähestymistapa saattaa toimia työssä oppimisen resurssina. Vastavuoroisessa suhteessa työn muokkaaminen ja reflektiivis-yhteisöllinen episteeminen lähestymistapa voivat myös edistää toinen toisiaan. Lisäksi koulujen rehtoreiden työn muokkaamisen tarkastelu erityisen vaativassa yhteiskunnallisessa tilanteessa tuo uusia näkökulmia työn muokkaamisen tutkimukseen.

Yhteenvedona, tämä väitöskirja tutki sitä, miten työn muokkaaminen liittyy ammatilliseen hyvinvointiin ja työn merkitykseen. Havaittiin, että ratkaisevaa ei välttämättä ole yksittäisen työn muokkaamisen strategian käyttäminen, vaan strategioiden yhdistelmät ja ne kontekstuaaliset tekijät, jotka voivat tehdä työn muokkaamisesta hyödyllistä. Työn muokkaaminen voi olla keskeinen voimavara, joka tukee kestäväää hyvinvointia ja innovatiivista työssä oppimista, niin yksilön kuin organisaation tasolla.

*Avainsanat:* työn muokkaaminen, työn imu, työholismi, episteemiset uskomukset, palveleva johtajuus, COVID-19, työn merkityksellisyys, julkinen sektori, rehtorit

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One of the main reasons for starting my PhD studies was to learn and understand the events occurring in organizational changes. How do people behave and think, how they learn, and how we understand well-being, work meaningfulness and leadership. Back in 2016, I was in the middle of organizational change myself, and later, serving in a leader position, I have systematically combined my work and my doctoral studies. It is essential for all, particularly to an educational leader, to be reminded of continuous and new kinds of learning demands. It is important to remember the feeling of uncertainty or how it feels when things are complicated and difficult. It is also important to be reminded of the joy

when you succeed and you realize you have learned something significant. I have learned to craft my leadership and believe that I am a better leader than I would have been without experiences from this PhD journey. This journey has been a positively challenging demand, which I feel has served as empowering resource for me in my day job. During these years people have asked what it takes to do PhD studies. I have often answered that it requires persistency and time in front of laptop. To be honest, it also requires passion and curiosity, which both engage you to learn and use your spare time for studying. Studying besides a full-time job has required weekends, holidays, and so called “night shifts”, but it has also improved my own crafting regarding studies and work. If I reflect this a bit further, I believe that in my case it required courage to jump into academic environment because there were some years between my masters’ and dissertation studies. I am grateful for granted awards, which made it possible for me to take study leave and concentrate in research. This dissertation was funded by Finnish Foundation for Municipal Development, by the Finnish Work Environment Fund, by OKKA Foundation for Teaching, Education and Personal Development, by OAJ Occupational Wellbeing Fund, and by the Finnish Strategic Research Council.

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Terhi Nissinen

1 INTRODUCTION.....	1
1.1 Job Demands-Resources Theory and Conservation of Resources Theory.....	4
1.2 Overview of job crafting .....	10
1.3 Resource-based job crafting model .....	11
1.4 Perspectives to occupational well-being and the meaning of work.....	16
1.4.1 Occupational well-being.....	16
1.4.2 The meaning of work.....	22
2 THE AIMS OF THE DISSERTATION .....	28
3 CONTEXTS .....	31
3.1 Studies I and II .....	31
3.1.1 About the Finnish public sector.....	31
3.2 Study III.....	31
3.2.1 About the Finnish education system.....	31
4 METHODS .....	32
4.1 Participants .....	32
4.1.1. Studies I - II .....	32
4.1.2. Study III.....	32
4.2 Materials.....	33
4.2.1 Studies I and II.....	34
4.2.2 Study III .....	38
4.3 Data analyses and procedures.....	42
4.3.1 Study I.....	43
4.3.2 Studies II and III .....	46
5 RESULTS.....	52
5.1 Study I .....	52
5.2 Study II.....	54
5.3 Study III.....	56
6 DISCUSSION .....	58

6.1	Limitations .....	60
6.2	General methodological reflections .....	62
6.3	Job crafting and occupational well-being .....	65
6.4	Job crafting profiles among different groups of employees	66
6.5	Job crafting profile differences regarding occupational well-being.....	72
6.6	Job crafting profiles and the meaning of work .....	77
6.7	Theoretical contribution and future research suggestions ..	80
6.8	Practical considerations .....	87
7	CONCLUSIONS .....	92
8	REFERENCES.....	94

## List of original publications

This thesis is based on the following publications:

I Nissinen, T. S., Maksniemi, E., Rothmann, S., & Lonka, K. (2022). Balancing work life: Job crafting, work engagement, and workaholism in the Finnish public sector. *Frontiers in Psychology, 13*, 817008. <https://doi.org/10.3389/fpsyg.2022.817008>

II Nissinen, T. S., Upadyaya, K., Lammassaari, H., & Lonka, K. (2023). How Do Job Crafting Profiles Manifest Employees' Work Engagement, Workaholism, and Epistemic Approach?. *Vocations and Learning, 17*, 21-42. <https://doi.org/10.1007/s12186-023-09334-x>

III Nissinen, T. S., Upadyaya, K., Lonka, K., Toyama, H. & Salmela-Aro, K. (2024). School principals' job crafting profiles and their differences during the prolonged COVID-19 pandemic. *International Journal of Organization Theory & Behavior, 27*(3) 185-205 <https://doi.org/10.1108/IJOTB-03-2023-0060>

The publications are referred to in the text by their roman numerals.

## 1 Introduction

Work seems to be constantly evolving due to structural and societal changes (Li *et al.*, 2020), accelerated digitalization (Hazelzet *et al.*, 2019; Korunka *et al.*, 2015; Mazzetti *et al.*, 2018), and work intensification (Korunka *et al.*, 2015). Global and national requirements, such as the digital-green transition, changes in the demographic structures, and the decrease in the labor supply (WORK2030, Ministry of Social Affairs and Health) increase the growing need for work to be done smarter. These developments together with recent global crises have caused significant disruption (Armstrong *et al.*, 2024). Increases in the speed and number of changes challenge learning, and they increase stress if there are no adequate strategies for dealing with them (Hobfoll, 1989). The optimal state for employees and organizations is that as many individuals as possible would stay healthy, be motivated to learn new things and be willing to engage in work. Therefore, workplace learning needs to be flexible and employees need strategies to face new job demands and keep up in professional development. This dissertation investigates continuous learning in work and occupational well-being. The research was done to examine how individuals use job crafting strategies in their work. This dissertation reflects study findings through Job Demands-Resources theory (JD-R; Demerouti *et al.*, 2001), which is seen as a framework for workplace learning and occupational well-being. I investigated how job crafting relates to occupational well-being, epistemic approach, servant leadership, and to work meaningfulness. This dissertation includes cross-sectional studies and therefore I applied the Conservation of Resources theory (Hobfoll, 1989) when discussing the research findings.

Work fulfills a large part of peoples' daily lives, and it is important for an individual and for a society. Organizations want to enhance employee well-being to enable productivity, reduce personnel turnover, and to hold on to their talented workers (Bakker & Demerouti, 2024). The post-pandemic era and new generations have increased the discussion about how we think about our jobs, how we do our jobs, and what kind of

work fits us. The need for flexible thinking in work life and in society in general is seen every day as we read studies, journals, blogs and listen to podcasts about work.

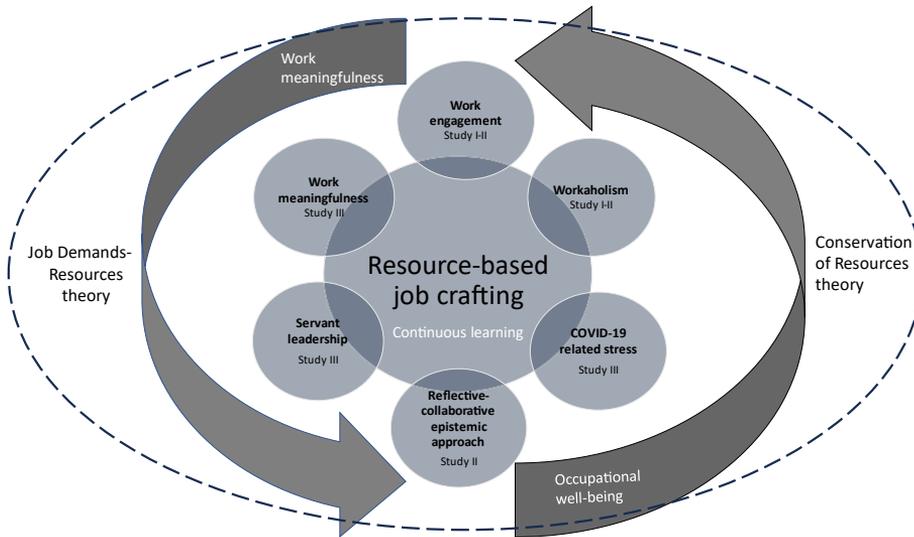
However, it is concerning that employees' sickness absences due to depression and anxiety disorders have constantly been increasing over recent years (Blomgren & Perhoniemi, 2022) and unpredictable disruptions such as pandemics, wars, energy crises or economic recessions may bring new demands for people to face in the future. Despite future demands, life continues, and people need to work in each society. Therefore, long-term sustainable work will be about continuously learning at work. Continuous learning requires tools, and to perform at their best and provide innovative work behavior, people need to be engaged (Hakanen *et al.*, 2008), they need to be facilitated by empowering leadership (Khan *et al.*, 2021), and workplaces should be seen as environments for continuous learning. Instead of concentrating only on challenges in work, it is important to investigate which conditions enhance employees' opportunity to flourish at work (Bakker & Demerouti, 2017).

Workplace learning can be increased by job crafting. Proactive and initiative change behavior to improve fitting a job with personal knowledge (theory), skills (practice), and abilities (self-regulation), is called job crafting (Tims & Bakker, 2010; Tynjälä, 2008). Job crafting focuses on the changes that employees make primarily to enhance their own goals at work e.g., professional development or well-being, but most of these changes are highly valuable also to the organizational survival and success (Tim & Bakker, 2010). In the process of job crafting, employees proactively renew the boundaries of work (Tims & Bakker, 2012) and balance their job demands and resources (Tims *et al.*, 2012). In fact, employees have been shown to perform their best and express work engagement when they combine challenges and resources (Bakker *et al.*, 2007). This kind of tailoring process reflects on the mediating role of self-regulative behavior (Bakker & Oerlemans, 2019), and is not possible without integrating and utilizing employees' theoretical and practical knowledge of their work (Tynjälä & Gijbels, 2012). Therefore, *job crafting could be seen as a tangible tool for workplace learning and occupational well-being.*

It seems that epistemic beliefs and theories i.e., thoughts about learning and knowing, may guide actions at the meta level (Lonka & Lindblom-Ylänne, 1996), which might make a difference in how

employees craft their jobs and experience meaning in work (Wrzesniewski, 2003). It is important to increase the knowledge about epistemic approaches and work meaningfulness in job crafting because employees are the most important form of organizational capital, and their motivation, commitment and well-being may be ways to increase the ability of organizations to survive in global and societal changes (Rantanen *et al.*, 2022). The need for flexible and sustainable work life is already present, and in this dissertation, it is suggested that job crating crafting should be considered to be a work life competence, which enables employees to develop their work, learning, competencies, meaningfulness, and well-being. Balancing job demands and resources by job crafting is also imperative from an organizational standpoint, as it may reduce turnover and absenteeism caused by employee illness and increase productivity through employees' job performance (Bakker *et al.*, 2003; Roczniowska *et al.*, 2020; Shaufeli *et al.*, 2009).

This dissertation topic is justified by its potential influence on well-being and continuous workplace learning in the framework of job crafting. It is also justified by the Conservation of Resources (COR) theory, as it brings out information about job crafting in crisis situations. In that way, it may help us not only to react to stress, but also to make us more aware of resource reservoirs if the future brings along unpredictable disruptions (Hobfoll *et al.*, 2018). The central idea of this dissertation is to investigate how individuals craft their jobs and what kinds of strategy combinations they use. That way, I sought to promote a comprehensive understanding of multifaceted job crafting. This dissertation combines several leading theories and conceptualizations from the fields of organizational, occupational, and educational psychology, to investigate job crafting in terms of continuous workplace learning and occupational well-being. All these intertwined theoretical frameworks have been presented in Figure 1 and defined in subsequent chapters.



**Figure 1.** *The conceptual and theoretical framework*

### 1.1 Job Demands-Resources Theory and Conservation of Resources Theory

Job Demands-Resources Theory (Demerouti *et al.*, 2001) is an organizational psychology theory, and is the base of this dissertation research. It may be considered to be the home of the resource-based job crafting model. It was originally used to explain burnout, and during the 2011-2016 period, it developed into a flexible and evolving theory for explaining various types of employee well-being (Bakker & Demerouti, 2017), organizational processes, and job performance (Figure 2) (Demerouti & Bakker, 2022). JD-R theory is originally based on *two broad categories of working conditions - job demands and job resources* (Bakker & Demerouti, 2017).

Conservation of Resources (COR) theory is a stress and motivation theory based on evolutionary needs, and it explains how people react when they anticipate losing or actually lose valuable resources (Hobfoll, 1989; 2001; 2018). The loss or assumption about losing resources typically occurs in situations of change, even in the work domain. COR theory highlights the importance of proactive coping behavior and has influenced the Job-Demands Resources theory, which is more often applied in the

work domain and is more tangible in explaining the type of resources needed to deal with job demands and prevent a depletion of volatile resources (Bakker & Demerouti, 2007; 2017; 2024). I integrated Conservation of Resources Theory (COR; Hobfoll, 1989, 2001) into the research to reflect study findings about job crafting from the perspectives of occupational well-being and the meaning of work.

The JD-R theory states that several propositions refer to work conditions; in the first proposition all job characteristics are seen as demands or as resources which may influence employee well-being and job performance in work (Bakker & Demerouti, 2007; Demerouti *et al.*, 2001). **The first condition - job demands**, are experienced as costs (Bakker & Demerouti, 2017), and refer to factors such as workload, tight time schedule pressure, poor environmental conditions, or e.g., to demanding clients (Demerouti *et al.*, 2001; Bakker *et al.*, 2003a). Personal demands often refer to individuals' characteristics which are related to efforts at work. This kind of demand includes e.g., illness or personal worries (Salmela-Aro & Upadyaya, 2018). **The second condition - job resources**, refer to physical, psychological, social, or organizational aspects of the job that are beneficial in achieving goals, decrease job demands, or may stimulate learning and personal growth, (Bakker & Demerouti, 2007). Job resources can include autonomy in task variety, job security, participation in decision-making, or social support and feedback (Demerouti *et al.*, 2001). Personal resources, on the other hand, refer to psychological aspects e.g., action patterns, self-efficacy, and resilience (Bakker, 2011; Bakker *et al.*, 2016; Bakker & Demerouti, 2008). Whether these two work conditions, demands and resources, are experienced as demands or as resources may vary. This variation may be related to contextual or occupational differences. Furthermore, COR theory highlights considering resources within the framework of a cultural context and suggests acknowledging the complex network of beliefs and values that give meaning to resources (Hobfoll *et al.*, 2018).

The second proposition explains how job demands and resources evoke *two different psychological processes*, which eventually affect individual and organizational outcomes (Schaufeli & Bakker, 2004). The first process is called the health impairment process, in which demanding aspects of work may lead to severe mental health problems, and to longer job absenteeism (Bakker *et al.*, 2003). For example, a heavy workload,

demanding work content or poor physical work environment has shown to predict burnout, which in turn has predicted depression (Hakanen *et al.*, 2008). The motivational process is the second process in which job resources may lead to engagement and positive outcomes (Schaufeli & Bakker, 2004). For example, seeking more challenges has increased work engagement, decreased job boredom and boosted other job crafting strategies (Harju *et al.*, 2016). It has been shown that employees who are effectively engaged in job crafting often increase their job resources over time (Tims *et al.*, 2013; Van Vingerden *et al.*, 2017a), which is in line with the COR theory idea that people try to invest in valuable resources to protect themselves from resource loss, to recover from losses, and to gain new resources (Hobfoll, 2001).

The third proposition is about buffering, which means that several job resources can buffer the impact of job demands and relate with engagement (Bakker & Demerouti, 2007; Bakker *et al.*, 2007). It has been shown that many job resources can buffer job demands, and there does not have to be a match between demands and resources to obtain the buffering effect (Bakker *et al.*, 2007). For example, in person-oriented research, it has been shown that work engagement was an outcome of combinations of job crafting strategies rather than of using any single job crafting strategy (Mäkikangas, 2018) and employees benefitted from using various job crafting strategies. The fourth proposition concerns high demands and states that resources influence motivation, particularly when job demands are high (Bakker *et al.*, 2007). The boosting relevancy of job crafting was shown among Finnish dentists, who were confronted with high job demands (Hakanen *et al.*, 2017). The buffering and boosting propositions in JD–R theory are based on COR theory (Bakker & Demerouti, 2024), which suggests that it is essential to protect available job resources and actively seek new job resources (Hobfoll, 2001).

The fifth proposition explains how personal resources refer to beliefs of controlling one's own job environment and self-efficacy can play a role like job resources (Bakker & Demerouti, 2017). For example, combining personal resources and job crafting has been shown to lead to increased work engagement (Wingerden *et al.*, 2017). For this dissertation, I investigated the epistemic approach, which may act as a personal job resource (Lammassaari *et al.*, 2022). The sixth proposition considers motivation and strain, and that motivation has a positive influence, and that

strain has a negative effect, on job performance (Bakker & Demerouti, 2017). An example of this proposition is job crafting relating to older employees' health and motivation to continue working after retirement age (Lichtenthaler & Fischbach, 2016). To be more precisely, it seems that older employees who craft their jobs through approach-oriented job crafting strategies stay motivated to continue working after the formal retirement age, but employees who mainly use avoidance-oriented job crafting may be relieved when they can retire (Lichtenthaler & Fischbach, 2016). Older employees and their ability to craft their jobs may become crucial to an organization's functional capability, and this perspective is relevant if knowledge losses and skill shortages are to be avoided.

The seventh proposition states that engaged employees are likely to utilize job crafting behavior and create a positive gain spiral of increasing resources. In a longitudinal study, job crafting was shown to increase work engagement and build personal resources like optimism, hope, and ability, to overcome problems, and to boost confidence in succeeding at challenging tasks (Vogt *et al.*, 2016). The eighth proposition, on the other hand, argues that strained employees manifest self-undermining behavior, which leads to a loss spiral of high demands and ever increased strain (Bakker & Demerouti, 2017). Self-undermining is a stress response when employees tend to lose their self-regulatory resources. For example, they may communicate more poorly, make more mistakes, and end up in conflicts. Earlier research implied that self-undermining behavior might manifest the JD-R health impairment process, because the link relating burnout and job demands has been shown among Chinese employees (Bakker & Wang, 2020). Gain and loss spirals in COR theory describe how those who lack resources are more vulnerable to cumulative resource loss in the future, and are likely to evoke self-undermining behaviors and adopt a defensive attitude to protect their resources. Then again, those who possess resources are more capable of increasing them more, and their resource gain creates further gain. Thus, job crafting may influence, and be influenced, by gain and loss spirals, which may further be related to occupational well-being and work meaningfulness (Hobfoll, 2001).

The COVID-19 pandemic disrupted the work context by increasing new kinds of complex job demands. However, disruption also created new resources and made it even more important to study job crafting strategies as a regulating and workplace learning behavior. After the worst waves of

the COVID-19 pandemic, the JD-R theory was extended with several new propositions to explain job crafting in times of crisis (Demerouti & Bakker, 2022). The core idea in JD-R theory extension is the interplay across life domains. The extended theory suggests that the health impairment process may be caused by high job demands, and also by the interplay between demands from various life domains (e.g., work and home). Similarly, JD-R theory explains that the motivational process is not only a result of having a high level of job resources, but it may also be intertwined with resources from various life domains. For example, a demanding job may be balanced by a supportive family life, or by social resources received from some other important network, like a research group or a sauna club. Further, the extended JD-R theory proposes that regulatory strategies may be considered either as proactive attempts to help people change their behavior to achieve their goals, or as being destructive, referring to more reactive and demand-driven behavior, and to self-undermining.

COR theory states that the resource investment process may take place in three ways. The first is replacement by re-establishing resources. The second is substitution, by finding alternative resources. The third is accommodative coping, by downgrading goals (Hobfoll, 2001). In this study context, resource replacement may refer to a lack of job control, which is met with attempts to re-establish control by using job crafting strategies, such as asking for feedback or advice, or by decreasing work intensity. Resource substitution may refer to job crafting and gaining new job resources through competence development or digitalization. Accommodative coping occurs in situations in which resource investment of time, energy or competence development outweigh the benefits, and produces crafting such as downgrading goals or work intensity. In the work force and during one's life span, it is important to understand and learn how resources may be invested (Hobfoll, 2001).

<b><i>Job-Demands Resources Theory (JD-R)</i></b>	
<b>Job demands</b>	<b>Job resources</b>
Physical, psychological, social, organizational job demands <ul style="list-style-type: none"> <li>○ work environment</li> <li>○ organizational climate</li> <li>○ customers, colleagues</li> <li>○ workload</li> </ul>	Physical, psychological, social, organizational job resources <ul style="list-style-type: none"> <li>○ competence, autonomy</li> <li>○ support</li> <li>○ feedback</li> <li>○ participation in decision-making</li> </ul>
<ul style="list-style-type: none"> <li>- Associated with physiological or psychological efforts and costs.</li> <li>- Demands cause strain if they exceed employee adaptivity or ability to recover from high efforts.</li> </ul>	<ul style="list-style-type: none"> <li>- Reduce demands</li> <li>- Enhance achieving goals</li> <li>- Promote personal growth, learning, development</li> </ul>
Two psychological processes:	
1) The health impairment process: Demands lead to constant overtaxing, leading to exhaustion, leading to negative outcomes such as absenteeism and impaired in-role performance.	2) The motivational process: Resources lead to engagement, leading to positive outcomes such as dedication, extra-role performance and commitment leading to personal investment and success.

**Figure 2.** *The Job-Demands Resources Theory*

## 1.2 Overview of job crafting

Job crafting is a bottom-up process through which employees change work boundaries to fit with their individual skills, motives, and passion better (Wrzesniewski & Dutton, 2001). It is important to understand that job crafting is not about re-designing the whole job, but about changing certain aspects of it (Tims *et al.*, 2012). In past 25 years, job crafting research has accelerated and broadened the scope of job crafting into new areas, such as crafting according to strengths and interests (Kooij *et al.*, 2017), crafting careers (Akkermans *et al.*, 2020), crafting teamwork (Tims *et al.*, 2013), crafting networks (Wang *et al.*, 2024), and crafting leisure time (Petrou & Bakker, 2016). These new trends bring out interesting perspectives by showing that social change-oriented behavior, such as being involved in organizational decision-making (Wang *et al.*, 2018), tends to improve employees' job crafting in ways that are of benefit to their supervisors. Also, cultural and contextual conditions, such as having a socially supportive work environment, may stimulate and support employees' job crafting (Boehnlein & Baum, 2020; Lazazzara *et al.*, 2020).

Several outcomes have been identified in job crafting meta-analysis regarding employees and organizations. Job crafting has been shown to have positive associations with employees' work engagement (Frederick & VanderWeele, 2020), job satisfaction, and work performance (Lichtenthaler & Fischbach, 2019; Rudolph *et al.*, 2017). In addition to these outcomes, it has been suggested that job crafting has helped employees to keep up with constant rapid changes in work, and to contribute to their sustainable employability (van Wingerden & Poell, 2017). Optimism, hope, and employees' confidence in succeeding with challenging tasks have also been shown to increase via job crafting (Vogt *et al.*, 2016). Furthermore, job crafting has been shown to reduce job strain (Rudolph *et al.*, 2017) and burnout (Lichtenthaler & Fischbach, 2019). Thus, job crafting could be seen as a tool for workplaces, and it would be possible to develop interventions based on job crafting to improve employees' occupational well-being.

The most common frameworks used to examine job crafting are role-based job crafting and resource-based job crafting (Tims *et al.*, 2021). Role-based job crafting focuses on changes in work boundaries, work meaningfulness, and work identity (Wrzesniewski & Dutton, 2001), and it

is predominantly used in qualitative studies. Resource-based job crafting model (Tims & Bakker, 2010) is based on Job Demands-Resources theory (JD-R) (Bakker & Demerouti, 2007), it focuses on actual behavior to balance job resources and demands, (Tims *et al.*, 2012), and it is typically investigated by using quantitative methods. The two job crafting conceptualizations focus on different job crafting motives. Resource-based job crafting focuses on balancing motivational and occupational health aspects by tangible changes, whereas the role-based model focuses mainly on motivational aspects and comprises intangible changes (Lichtenthaler & Fishbach, 2019). Research using both job crafting perspectives has demonstrated that by job crafting, employees can achieve better person–job fit, higher work motivation, and improved well-being (Zhang & Parker, 2019). Furthermore, it is possible that resource-based job crafting may lead to cognitive role-based job crafting and increase work meaningfulness as tangible changes, made possible by behavioral crafting, may change the way an individual views their new role (Zhang & Parker, 2019).

In this dissertation, job crafting was operationalized by using the most widely adopted theoretical model of resources-based job crafting (Tims & Bakker, 2010). The choice was made particularly to investigate the tangible changes individuals make in their jobs. Next, I will explain the concept of resource-based job crafting and define four job crafting strategies (Tims *et al.*, 2012; Tims & Bakker, 2010). After that, I will present how the resource-based job crafting model fits into the hierarchy of job crafting (Zhang & Parker, 2019).

### **1.3 Resource-based job crafting model**

Resource-based job crafting emphasizes employees' active role in balancing job demands and job resources, to align them with their own abilities and preferences (Tims & Bakker, 2010). Balancing is about changing job demands, job resources, or both, simultaneously.

First, job resources are valuable predictors of positive work outcomes, such as work engagement (Schaufeli & Bakker, 2009), and in situations in which job resources are low, it benefits the employee if they can *increase job resources* and deal with prevailing demands or become more motivated. For example, heavy workload or strict deadlines may be

crafted by utilizing job autonomy and prioritizing tasks or by organizing work so that it is possible to ask for advice and to collaborate with colleagues.

Second, some job demands may be motivating and rewarding for an employee. An employee may begin to *increase challenging job demands* if the current job does not offer enough opportunities, or it is not possible to use all skills at work. An employee may study their own professional field and get new perspectives for work, or they may volunteer to participate in a new developing project.

Third, sometimes employees may need to *decrease job demands* to manage demands that hinder the opportunities for achieving job-related goals. For example, role ambiguity and unclear procedures may blur the focus of work, increase employees' time spent working, and lead to exhaustion. Decreasing these hindering demands may become necessary to get the job done and to stay healthy.

#### *Increasing structural job resources*

The job crafting strategy of increasing structural job resources is about employees changing their task-related aspects in work, e.g., increasing their knowledge about the job by developing their job-related competencies (Tims *et al.*, 2012). Increasing structural job resources includes behavior aimed at promoting increases in autonomy, skill variety, and other motivational characteristics of the job (Rudolph *et al.*, 2017). It is also about using competencies to the fullest, managing time and tasks, such as scheduling and planning beforehand. Developing current working procedures and processes, organizing and prioritizing tasks, and altering the way to do tasks may also be examples of increasing structural job resources (Lazazzara *et al.*, 2020). For example, construction technology experts in the public sector (Studies I and II) may use software or applications in scheduling their tasks or to monitor the progress of processes. Customer service personnel (Studies I and II) might increase their competence in challenging service situations or even practice some methods to deal with difficult customers or with the negative feedback they have to face.

*Increasing social job resources*

The job crafting strategy of increasing the social job resources focuses on changes in employees' interactional aspects and relationships at work. Asking guidance, support or feedback from peers or supervisors describes the strategy of increasing social job resources (Tims *et al.*, 2012; 2021). Actively changing relationships with others at work, altering the quality of interaction, social expansion (i.e., systematically seek feedback and change interactions), building personal relationships, and creating a network may be examples of increasing social job resources (Lazazzara *et al.*, 2020). Educational and administrative experts (Studies I and II) may use social job resources in networking to follow their professional field, or to discuss new legislation or to reflect on their interpretations of the new law. Teachers (Studies I and II) may ask for teaching related guidance or opinions from their peers, or from principals at school. Principals (Study III) may give feedback and themselves ask for advice from their supervisor. Social resources may also be a feeling of mutual trust between colleagues and their supervisor.

*Increasing challenging job demands*

The job crafting strategy of increasing challenging job demands is about seeking new challenging work assignments or proactivity (Tims *et al.*, 2012) or obtaining more tasks or work responsibilities (Tims *et al.*, 2021). Specialization, additional responsibilities, creating innovative practices, and job expanding ideas, building up new business ideas may also be examples of increasingly challenging job resources (Lazazzara *et al.*, 2020). Teachers (Studies I and II) may challenge themselves by creating new multidisciplinary learning experiences with their students, they may take on extra responsibilities in their community (e.g., being the recycling team teacher or the digital tutor teacher) and participate in curriculum development or in new educational development projects. ICT experts (Studies I and II) may search for new technological tools and examine how to use them in their work and in other occupations. Principals (Study III) and employees from public sector occupations, like administrative personnel, may learn to use AI (artificial intelligence) in knowledge creation and problem-solving. In fact, increasing challenging job demands may be about self-directed learning in many platforms and services.

*Decreasing hindering job demands*

Job crafting strategy of decreasing hindering job demands refers to emotionally or cognitively undesirable constraints that interfere with individuals' work, that is, role ambiguity. An employee may try to minimize collaborating with people whose expectations are unrealistic or may try to avoid difficult decisions at work (Tims *et al.*, 2012). Reducing the number of tasks, reducing responsibilities, reducing requirements, reducing the scope of the task, work role reduction, delegation, saying "no", reducing non-critical tasks, reducing non-routine tasks, avoiding risky situations/cases, reducing the number of meetings, and time devoted to socializing with colleagues, reducing relationships and interaction, ignoring customers, and creating distance may be examples of decreasing hindering job demands (Lazazzara *et al.*, 2020). For example, parking supervisors (Studies I and II) may avoid situations or parking areas where customers are close or known to complain and they may choose areas where their job is done more easily. Administrative personnel (Studies I and II) may choose to avoid informal or formal meetings with customers or colleagues whose behavior affects them negatively or drains their energy. In the same way, teaching assistants (Studies I and II) may minimize working in a certain group or with a certain teacher if they feel it is emotionally too demanding for them. However, if employees focus mainly on avoidance-oriented job crafting, they may deplete their existing resources and work engagement (Seppälä *et al.*, 2020).

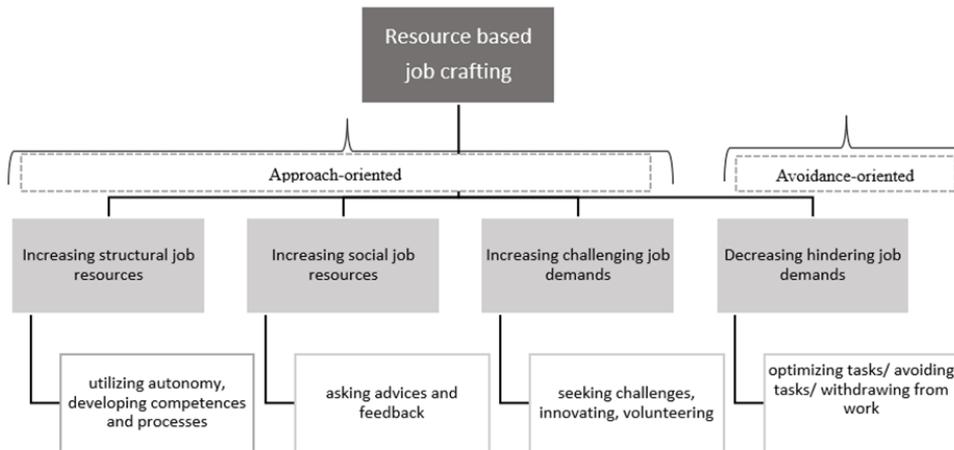
Recently, this strategy of decreasing hindering job demands has also been considered from the perspective of optimizing job demands (Demerouti & Peeters, 2018). The original avoidance-oriented and new perspective of optimizing-oriented job crafting strategies differ according to their attempts. The former is a minimizing approach to work, whereas the latter attempts to work smarter, not harder. For example, park workers (Studies I and II) may work smarter by minimizing their physical workload and using technical devices and principals (Study III) may distribute some of their administrative duties to gain more time to focus on pedagogy. By optimizing job demands, employees try to simplify work processes or procedures to make their job easier, they look for ways to do their work more efficiently, or they change the work processes or procedures which delay their work. It is noteworthy that minimizing and optimizing

approaches may be used simultaneously by the same person (Demerouti & Peeters, 2018).

### *Job crafting hierarchy*

Recently, a job crafting hierarchy was established to synthesize job crafting through two orientations: approach-oriented job crafting and avoidance-oriented job crafting (Zhang & Parker, 2019). The job crafting hierarchy organizes four resource-based job crafting strategies into proactive approach-oriented job crafting (including increasing job resources and job demands), and withdrawal or optimizing avoidance-oriented job crafting (including decreasing hindering job demands) (Bruning & Campion, 2018; Zhang & Parker, 2019).

This hierarchy defines approach-orientated job crafting as positive energization, future oriented behavior, and avoidance-oriented job crafting as negative energization or away-directed behavior (Elliot, 2006). Approach-oriented job crafting is typically associated with an employee's work engagement (de Beer *et al.*, 2016) and task-level job performance (Guan and Frenkel, 2018). Avoidance-oriented job crafting on the other hand is seen either as work avoidance (Mäkikangas & Schaufeli, 2021; Robledo *et al.*, 2019), as a coping behavior (Lazazzara *et al.*, 2020), or more recently as a form of optimizing behavior (Demerouti & Peeters, 2018; Nissinen *et al.*, 2022). These two hierarchy orientations may also occur differently, and approach-oriented job crafting may come at a cost (e.g., increased workload) (Harju *et al.*, 2021), and avoidance-oriented job crafting may become necessary to get work done smarter, and to optimize and protect employees' well-being (Demerouti & Peeters, 2018; Nissinen *et al.*, 2022). This dissertation investigates both these job crafting orientations via separate job crafting strategies (Figure 3). This dissertation addresses the benefits of job crafting, the often-neglected aspect of literature about the negative associations that job crafting may have (Lazazzara *et al.*, 2020), and the benefits related to avoidance-oriented crafting strategy (Tims *et al.*, 2021).



**Figure 3.** *Resource-based job crafting model in job crafting hierarchy*

## 1.4 Perspectives to occupational well-being and the meaning of work

I investigated job crafting from the wider perspectives of occupational well-being and the meaning of work. I considered work engagement, workaholism and COVID-19-related stress to represent occupational well-being from three different perspectives. I studied the meaning of work from a personal perspective and investigated participants' work meaningfulness. I also studied the meaning of work from the leadership perspective by investigating principals' servant leadership. Finally, I examined whether thinking and thoughts about learning and knowledge are manifested in job crafting. In other words, I investigated the meaning of work from an individual's epistemic approach, representing meta level thinking. These concepts are presented below.

### 1.4.1 Occupational well-being

#### *Work engagement*

Meta-analyses show that job crafting leads to improved person-job fit, which positively impacts occupational well-being (Lichtenthaler & Fischbach, 2019; Rudolph *et al.*, 2017). The person-job fit refers to the

compatibility between the employees' competence and the demands of the job, or to the extent that the job fulfills the employees' needs and preferences (Tims *et al.*, 2016). Job crafting may vary regarding work engagement (Nissinen *et al.*, 2022), as work engagement brings along energy, efficiency, and the ability to deal with job demands (Schaufeli *et al.*, 2002), which may further affect job crafting behavior. Work engagement is characterized as a long-lasting positive psychological state of well-being and work-related fulfillment of vigor, dedication, and absorption (Schaufeli & Bakker, 2004; Schaufeli *et al.*, 2006). Vigor refers to high levels of energy, persistence, resilience, and willingness to invest in work. Dedication is about strong involvement in work, enthusiasm, sense of significance, inspiration, pride, and challenge. Absorption characterizes deep concentration, focusing on work, and even having difficulties detaching oneself from work (Schaufeli *et al.*, 2006.). Schaufeli, Bakker and Salanova (2006) used a large international database and a validated Utrecht Work Engagement Scale questionnaire (UWES-9) to measure work engagement dimensions.

Engaged employees often have a positive attitude; they experience enthusiasm and good health, they can shape their personal and job resources, and they tend to spread their engagement to others (Bakker, 2011). Engagement is seen as a source of learning, prosperity, and dedication, which contributes to the well-being of employees and affects even customer satisfaction at the organizational level (Bakker & Bal, 2010; Phelps, 2013). Thus, engaged employees are an important resource for sustainable productivity and prosperity (Phelps, 2013), and work engagement is seen as an optimal state for both employee and employer (Bakker & Bal, 2010).

Work engagement is shown to be associated with job resources (Bakker & Demerouti, 2008; Nissinen *et al.*, 2022) and with job crafting (Rudolph *et al.*, 2017). However, job crafting is a multifaceted phenomenon, and earlier research has shown that it may influence and be influenced by work engagement. Therefore, the relationship between job crafting and work engagement has varied between studies. First, job crafting often predicts work engagement (Schaufeli *et al.*, 2009; Vogt *et al.*, 2016), as positive associations have been found between approach-oriented job crafting, and work engagement and negative associations were found between avoidance-oriented job crafting and work engagement

(Hakanen *et al.*, 2018; Harju *et al.*, 2021). Job crafting has been shown to be successful in promoting work engagement (Knight *et al.*, 2019), and job crafting could be used as one of the interventions to support employees' well-being. Furthermore, active and diverse job crafting is suggested to be a prerequisite for a stable work engagement (Hakanen *et al.*, 2018), and a sign of a healthy active employee (Mäkikangas, 2018). Therefore, it is possible to assume that employees who have job crafting opportunities, and who craft their jobs, may be more satisfied with their work and more engaged with their workplace. Second, even the intention to act on job crafting and the experience of work engagement has predicted actual approach-oriented job crafting, which in turn predicted future work engagement (Tims *et al.*, 2015). Third, it has been suggested that the associations between job crafting and work engagement are reciprocal, as they both stimulate and are stimulated by each other (Zeijen *et al.*, 2018). For example, when employees experience more job resources, they also experience high work engagement, and such circumstances further enable job crafting (Bakker, 2011). Thus, this dissertation agrees with work engagement meta-analysis (Knight *et al.*, 2017) that the increase of resources promotes work engagement. This dissertation also considers job crafting to be a balancing tool that can be used to increase work engagement and hinder it if a risk of over engagement occurs.

### *Workaholism*

Workaholism refers to inner addiction to work (Clark *et al.*, 2016), even though there is ongoing discussion about whether the terms workaholism and work addiction mean the same thing or not (Andreassen *et al.*, 2018). The modern understanding of workaholism also describes it as an attitude to work, rather than merely the time spent on work (Andreassen, 2014). Workaholism was originally named after alcoholism (Oates, 1971), and that way they both literally refer to the same construct of addiction. Both workaholism and work addiction also involve a compulsive drive to work and exhibit similar behavioral, affective, and cognitive patterns related to work (Clark *et al.*, 2020). Recently, it has been suggested that there is a difference between these terms, caused mainly by clinically oriented addiction measurements, and that is why work addiction should be a

perceived as a phenomenon which is separate from workaholism, and it should be viewed through a clinical lens (Clark *et al.*, 2020).

Earlier job crafting studies focused on work engagement as an outcome of job crafting, and fewer studies have examined job crafting and workaholism together. However, workaholism may be related to job crafting or some strategies of job crafting (Nissinen *et al.*, 2022), as it has a strong positive relationship with work overload and work role conflict (Clark *et al.*, 2016), and it indicates a strong involvement in work (Ng *et al.*, 2007; Upadyaya *et al.*, 2016). Workaholism is associated with high job demands, which may lead to burnout symptoms e.g., exhaustion, cynicism, and lack of adequacy (Crawford *et al.*, 2010; Demerouti *et al.*, 2001; Hakanen *et al.*, 2006). That is because job demands require efforts that are likely to disrupt employees' concentration and may increase their feelings of disruption and eventually increase the time spent working, even during off-job time (Gillet *et al.*, 2022).

Workaholism is related also to a strong work-related calling, a competitive environment and to the lack of job resources (Keller *et al.*, 2016). Employees with a strong work-related identity, lack of supervisory support, or poor self-regulating skills, are at higher risk of workaholism (Clark *et al.*, 2016; Keller *et al.*, 2016; Schaufeli *et al.*, 2008). A competitive work environment may foster feelings of guilt and discomfort when not working and could lead to working harder, especially among employees with a calling i.e., those with strong work-related identities (Keller *et al.*, 2016). Workaholism is not related to high levels of performance or job satisfaction (Clark *et al.*, 2016) and employees suffering workaholic symptoms are not productive workers, and instead, they may end up costing organizations more money through decreased health and increased absence from work (Clark *et al.*, 2016).

Employees who are strained by their work are likely to show self-undermining behavior, which creates a vicious cycle for employees to experience even higher levels of daily job demands and job strain (Bakker & Demerouti, 2017). For example, workaholism is shown to be positively related to employees' work-life conflicts, marital disaffection, and is negatively related to family satisfaction and functioning (Clark *et al.*, 2016). Work-life conflicts are congruent with JD-R theory, suggesting that different life domains may affect each other (Demerouti & Bakker, 2022). Employees suffering from workaholism may also gain physical and mental

health problems, sleeping difficulties, decreased work performance and life satisfaction, burnout (Gillet *et al.*, 2018; Shimazu *et al.* 2015), and even emotional problems for their children (Shimazu *et al.*, 2020).

Workaholism is sometimes regarded as the dark side of work engagement because a positive relationship between workaholism and work engagement dimension of absorption has been shown (Clark *et al.*, 2016; Hakanen *et al.* 2012; Hakanen & Peeters, 2015; Schaufeli *et al.*, 2008; Taris *et al.*, 2010). Relations between work engagement and workaholism are relatively strong, but their outcomes are different (Choi, 2013; Molino *et al.*, 2016; Ng *et al.*, 2007; Schaufeli *et al.*, 2008; Upadaya *et al.*, 2016). Engaged employees differ from workaholics in the sense that they do not work compulsively, and they choose to do things other than working in their spare time (Gorgievski *et al.*, 2010; Tims *et al.*, 2010).

High work engagement does not necessarily expose employees to the risk of workaholism if they are able to balance their job resources and job demands (Nissinen *et al.*, 2022; Yu & Davis, 2016). It has been shown that employees may experience work engagement and workaholism at the same time. For example, high work engagement and average workaholism were reported at the same time among managers (Mäkikangas *et al.*, 2013). High work engagement and moderate workaholism were experienced simultaneously among university students (Innanen *et al.*, 2014), as were moderate workaholism and engagement among teachers and nurses (Gillet *et al.*, 2018).

Workaholism fosters goal-setting behavior, which associates with challenge- and resource seeking behavior (Zeijen *et al.*, 2018). In previous research, workaholism has been shown to be related to job crafting strategies of increasing structural job resources and challenging job demands (Hakanen *et al.*, 2018) and with increasing social job resources (Zeijen *et al.*, 2018). Employees who suffer from workaholism invest a lot in their jobs, and it is possible that they feel a continuous need to develop their competencies or seek new tasks to prove their performance. They often tend to increase their workload and make it more complicated (Clark *et al.*, 2016). It may also be that workaholics do not value the contribution of their peers (Hakanen *et al.*, 2018) and may therefore try to balance their job demands and resources by looking for social support and advice from their supervisors. Supervisors may give feedback about a job done well and fast, and that way, even facilitate a workaholic's excessive involvement

with work (Clark *et al.*, 2016). To reduce the risk of slipping into workaholism, it is important to monitor the level of job crafting (Hakanen *et al.*, 2018) and work engagement (Bakker *et al.*, 2011), and that way manage to maintain balance in work conditions.

### *COVID-19-related stress*

Stress may be another factor which affects or is affected by job crafting behavior. Earlier research has shown that overall job crafting was negatively related to job strain (Rudolph *et al.*, 2017), and that balancing job demands and job resources to be a better fit for one's competence or energy, can change work so it becomes less stressful (Tims *et al.*, 2013). According to conservation of resources (COR) theory, psychological stress can be seen as a reaction to the environmental threat of losing valuable resources or lacking resources despite efforts to gain them (Hobfoll, 1989). COVID-19 was the context of Study III, because stress occurred as this dissertation was reporting on school principals' job crafting in situations in which principals' leadership style and support was reported to be the main resource for teachers to be able to cope during crises (Lavonen & Salmela-Aro, 2022; Pollock, 2020). Therefore, it is not possible to disassociate stress results from the COVID-19 pandemic, and I described stress in this dissertation as COVID-19-related stress.

This dissertation addresses stress from the perspectives of principals' administrative work and concerns of well-being. School principals' administrative COVID-19-related stress was investigated concerning principals' accountability for their administrative work, such as making sure that the school is organized according to health security regulations (adapted from Upadyaya *et al.*, 2021). Stress concerning well-being was investigated concerning the stress about school community's well-being, regarding the emotional, social, and mental well-being of students, teachers, parents, and principals (adapted from Dicke *et al.*, 2018; Upadyaya *et al.*, 2021).

Earlier research among Finnish principals has shown that their occupational stress is mainly caused by a heavy workload, interpersonal relationships, lack of resources, and internal pressure e.g., health worries (Elomaa *et al.*, 2021). COVID-19 brought along new kinds of complexity, workload, and interactions. These diverse consequences increased principals' concerns and stress, and most Finnish school principals (77%)

reported high or altered levels of stress during 2020, the first pandemic year (Upadyaya *et al.*, 2021). The second wave of the pandemic brought along local and regional level procedures. It meant that principals' responsibilities expanded to track down infected students in collaboration with healthcare personnel. At the same time, principals were responsible for the well-being of school personnel.

### 1.4.2 The meaning of work

#### *Reflective-collaborative epistemic approach*

In this thesis I used the term “epistemic approach” to refer to epistemic cognition and personal belief systems or theories related to it. Epistemic cognition in general refers to the beliefs, theories, and practices about knowledge and knowing and how people define and use knowledge (Buehl & Fives 2016; Hofer 2016; Lonka, Ketonen & Vermunt, 2021). Epistemic approach was a suitable term in the workplace context, because it demonstrates how such belief systems color the way we see our learning and how we act in tasks that are related to knowledge and knowing.

Epistemic beliefs are thus beliefs about the process of knowing and such beliefs constitute less or more coherent epistemic theories (Hofer 2016; Muis *et al.* 2016), which I refer to as epistemic approaches. The reflective-collaborative epistemic approach is used to describe individuals' valuing reflection, metacognition, collaboration, and knowledge creation (Lonka, 1997; Lonka *et al.*, 2021; Deng *et al.*, 2014), which represents knowledge as complex, relativistic and integrated in nature (Lonka *et al.*, 2021).

Epistemic approaches may also play a role in how people approach their working practices and what kinds of job crafting strategies feel relevant for them. The more relativistic or integrated epistemic beliefs one has, the more inclined to practices supporting personal construction of knowledge one may be (Deng *et al.*, 2014). Individuals' epistemic approach guides e.g., students' study strategies and orientation to studying, which supports the idea of epistemic cognition combining epistemic theories with activities that they are likely to engage in (Lonka & Lindblom-Ylänne, 1996; Lonka *et al.*, 2021). Although epistemic beliefs and theories represent an individual approach, they are also socially shared

and embedded in the institutions' cultures, for example, in the conventions of academic cultures in different fields (Lonka *et al.*, 2019; 2021). An approach therefore is not a trait but a dynamic and evolving construct (Nist & Holschuch, 2005; Nussbaum & Bendixen, 2003).

When an employee sees oneself as a learning individual and able to respond to job demands, it provides a sense of meaning towards work (Rosso *et al.*, 2010). Work meaningfulness is often a subjective matter, as is the individual's epistemic approach. People may experience that working or learning is meaningful if it has a personal significance for them, if it enhances their personal growth, or if it has an impact on others (Steger *et al.*, 2012). For example, employees who entertain a reflective-collaborative epistemic approach are probably more likely to see themselves as reflective and active professionals who can proactively create new knowledge collaboration with others, which may lead them to be active in job crafting and experience strong work meaningfulness. Employees who manifest a transmission-oriented epistemic approach, where learning is mere accumulation of knowledge and reacting to external demands may have difficulties in seeing meaning in their work (Steger *et al.*, 2012). Thus, epistemic approach, one's inner beliefs, presents what kind of epistemic meaning is given to the work, workplace learning, and what is the purpose of job crafting.

Lonka *et al.*, (2021) first identified a reflective-collaborative approach (or theory) among university students, and it was later confirmed among teachers (Lammassaari *et al.*, 2021; 2022). Teachers' reflective-collaborative epistemic approach was related to lower symptoms of burnout and higher engagement as well as readiness to put digitalization and educational reforms in practice (Lammassaari *et al.*, 2022). The renewal approach to work and adopting new practices is valuable for an employee and their organization in a fast-changing world. Reflective-collaborative approach was shown to be an adaptive way of thinking about learning, knowing and knowledge creation among university students (Lonka *et al.*, 2008; Lonka *et al.*, 2021) and teachers (Lammassaari *et al.*, 2021; 2022). It is possible that epistemic approach guides employees' behavior (Lonka & Lindblom-Ylänne, 1996), and therefore job crafting needs to be more extensively investigated through this kind of meta level lens of individuals' beliefs about learning, knowledge and knowing. This dissertation brings earlier epistemic research from educational context into

multi-occupational context and investigates such belief systems in the framework of job crafting. These study findings contribute to the existing research by revealing how epistemic approach is related to actual job crafting behavior. Hopefully, these findings may be used in the research field of workplace learning and in actual work life outside educational context.

The reflective-collaborative epistemic approach that manifests reflection, proactivity in co-creating and collaborating may foster job crafting, and particularly those job crafting strategies that are learning and development oriented. In contrast, transmission-oriented epistemic approach manifested as passive and receptive or relying on simple truths and carrying out instructions (Fives *et al.*, 2015; Lammassaari *et al.*, 2021; 2022) may prevent reflective thinking. Research indicates that an epistemic approach may color the way people approach their daily work (Lammassaari *et al.*, 2021; 2022; Ketonen *et al.*, 2014).

The reflective-collaborative epistemic approach may fit with the needs of today's work life, which constantly challenges employees' adaptivity and learning, but it has not been earlier been investigated in relation to job crafting. There are similarities between reflective-collaborative epistemic approach and job crafting, but it is important to understand the difference between them. Epistemic approach is originally defined by epistemic cognition, which presents three levels of cognitive processes (Kitchener, 1983). On the first level there is an individuals' cognitive process, e.g., learning. On the second level there is a metacognitive process, through which an individual monitors own learning. On the third level there is an epistemic cognition, through which an individual reflects e.g., limits of own learning. Thus, epistemic approach reflects individuals' inner beliefs about learning, knowledge and knowing, whereas job crafting is more about tangible changes in work. Even cognitive job crafting, in role-based job crafting model, is more about making the job more satisfying and meaningful via positive framing (Wrzesniewski & Dutton, 2001) than about inner beliefs about learning, knowing, and knowledge. For example, cognitive crafting may remind oneself that one's work is important part of a bigger picture and it makes a difference in society.

Job crafting strategies of increasing structural job resources and challenging job demands can be seen as tangible proactive knowledge

creation processes through which employees increase their capabilities and capacities (Tims *et al.*, 2012). For example, educational experts (Studies I and II) may systematically evaluate how they manage their professional field, and they may proactively self-reflect on their perspective on competence regarding their expertise. Job crafting strategy of increasing social job resources may reflect the collaborative aspect by characterizing interaction (Tims *et al.*, 2012). For example, principals (Study III) may share their knowledge and co-create in their various responsibilities, or they may share their best practices in pedagogical leadership or in administrative tasks so that others will not need to solve the same problems by themselves. Teachers (Studies I and II) may collaborate in planning inclusive education, or they may join professional social media networks to learn from each other's experiences. The job crafting strategy of decreasing hindering job demands, on the other hand, may reflect limited energy and willingness to promote renewal. It is possible that some employees try to balance their workload and energy at work by outsourcing their job-related dilemmas to their peers and supervisors, or by assuming that workplace training should always provide practical tools on how to work, so that employees would not need to use their own thinking in implementing new knowledge in their jobs.

Reflecting on one's job crafting actions also requires reflecting on job demands in relation to personal, social, and institutional resources, as different job crafting strategies may stimulate employees' workplace behavior in several ways (Bakker & Demerouti, 2007). It may be that active job crafting increases employees' flexibility and adaptability, and in this reasoning, it may also have an impact on an individual's dynamic and evolving epistemic approach.

### *Servant leadership*

Servant leadership is seen as a leadership style in which organizational goals are achieved by using power to provide employees with the opportunities to become empowered and self-determined (Hoch *et al.*, 2018). The need to serve with a motivation to lead is the basis of servant leadership (van Dierendonck, 2011), and it was originally characterized by "going beyond one's self interest" (Greenleaf, 1977). This definition of servant leadership resembles the need for leadership in today's work life: employees need to be facilitated by empowering leadership (Khan *et al.*,

2021). However, servant leadership is not about being indecisive, passive, or friendly (van Dierendonck, 2011). Instead, servant leadership requires a strong sense of self, character, and psychological maturity from a leader (Eva *et al.*, 2019). Self-determination, high moral reasoning and high cognitive complexity are personal characteristics connected to servant leaders (van Dierendonck, 2011). All these characters lead servant leaders to act as role models and to hold their organization in trust (van Dierendonck & Nuijten, 2011). It is reasonable to assume that this kind of leader identity and humble approach to learning (van Dierendonck & Nuijten, 2011) could refer to a willingness to accept renewal and job crafting.

Servant leadership has been explored extensively in many industries. In the education sector it was earlier investigated in relation to teachers' empowerment (Van der Hoven *et al.*, 2020), teachers' job satisfaction (Cerit, 2009), and with higher education leaders' readiness in the COVID-19 pandemic (Al-Asfour *et al.*, 2022). The servant leadership style has been shown to be associated with employees' overall job crafting (Bavik *et al.*, 2017; Khan *et al.*, 2021), to many positive outcomes for employees (Kaltiainen & Hakanen, 2022; Khan *et al.*, 2021; Panaccio *et al.*, 2015; van Dierendonck *et al.*, 2014; Walumbwa *et al.*, 2010 Yang *et al.*, 2017), and with leader-member exchange, alongside leader effectiveness (Zhang *et al.*, 2021). It is suggested that servant leaders' characteristics and behavior increase servant leaders' work meaningfulness by creating a reciprocal and positive feedback loop from the employee back to the leader (van Dierendonck, 2011).

It has been suggested that the weakness of servant leadership has been its potential to be exposed to the manipulation of its followers (Whetstone, 2002), and the lack of studies investigating how servant leadership affects the leaders themselves (Panaccio, Donia *et al.*, 2015). Recent study examined how servant leadership effects leaders themselves and found that daily servant leadership, such as personally talking with employees about their job demands, may increase demands for a leader because it requires strong self-control from them to take this time for discussion even though they might have several tasks waiting on their desk (Liao *et al.*, 2021). In this dissertation, I was interested in principals' servant leadership and investigated if job crafting profiles show differences in principals' own perceived servant leadership. Servant leaders may gain

pride, self-actualization and well-being from being a servant leader (Panaccio, Donia, *et al.*, 2015), and it is possible that this kind of meaningfulness may affect their job crafting behavior. The approach in this dissertation was to provide new knowledge about how differently crafting principals report about their servant leadership manners.

### *Work meaningfulness*

Work meaningfulness is a growth- and purpose-oriented focus towards work (Steger *et al.*, 2012) and therefore a relevant factor in context of job crafting. As proposed (Wrzesniewski & Dutton, 2001), job crafting may change the boundaries, the meaning, and conditions of a job, and it emphasizes employees' active role (Tims & Bakker, 2010). Thus, the meaning of work as an attached significance about work (Rosso *et al.*, 2010) can be enhanced by altering the task boundaries or how often and with whom employees interact at work (Tims & Bakker, 2010). Work meaningfulness is suggested to be high when employees engage in job crafting, because when work is in line with employees' self-concept or identity, it is likely to be meaningful (Tims *et al.*, 2016).

Work meaningfulness may be increased by making small changes at work (Wrzesniewski & Dutton, 2001). Daily job crafting by increasing one's job resources may be important for individuals' basic psychological needs (Bakker & Oerlemans, 2019), and may increase work meaningfulness when multiple job relevant resources are combined (Montani *et al.*, 2020; Rosso *et al.*, 2010). Seeking challenges often increases job demands, and it may have an outcome on psychological needs that is opposite to reducing job demands. For example, intrinsic motivation may be fulfilled by actively seeking challenges, but reducing job demands has been shown to be detrimental to motivation (Lichtenthaler & Fischbach, 2016), and to principals' basic psychological needs (Toyama *et al.*, 2022). Some findings among school principals imply that positive feedback from colleagues did not affect the occupational meaning of their work (Buonomo *et al.*, 2020), but interpersonal relationships at work (Rosso *et al.*, 2012) and feedback from supervisors and school coworkers may contribute to work meaningfulness (Montani *et al.*, 2020). Work meaningfulness and job crafting are intertwined with each other, as changes in job crafting behavior were shown to mediate work meaningfulness (Chang *et al.*, 2020). For example, simultaneously optimizing job demands

and seeking job resources by increasing structural and social job resources increased the meaning of work (Mäkikangas *et al.*, 2021; Tims *et al.*, 2016).

Achieving person-job fit is beneficial, because work meaningfulness is a positive psychological state associated with work motivation (Rosso *et al.*, 2010), high job satisfaction, well-being, and low risk of job turnover (Bailey *et al.*, 2019; Steger *et al.*, 2012). Work meaningfulness may also manifest eudaimonic well-being that reflects professional growth, work related calling, and purpose in work (Buonomo *et al.*, 2020). The meaning of work has been shown to influence many important outcomes, such as work behavior and individual performance (Wrzesniewski & Dutton, 2001; Wrzesniewski, 2003), or to experiences of empowerment and organizational identification (Rosso *et al.*, 2010). On the other hand, employees with low work meaningfulness have been shown to withdraw themselves from work (Steger *et al.*, 2012), and particularly supervisors have been shown to become bored, if workload or pace prevents them from focusing on the things they perceive meaningful in their work (Harju & Hakanen, 2016).

Work meaningfulness may also be an occupation-specific phenomenon, which means that definitions of what is meaningful may not be adaptable to all job roles (Bailey *et al.*, 2019). For example, school principals have shown higher work meaningfulness when they have a chance to grow at work, when they are able to contribute to others through their leadership, and when they are aware of their leadership role as a principal (Buonomo *et al.*, 2020).

## **2 The aims of the dissertation**

The overall aim of this dissertation was to investigate job crafting, the interplay between job crafting strategies, and further, how these strategies and their combinations, i.e., profiles, are related to occupational well-being and the meaning of work (Table 1). The first research question in Study I was to examine how various job crafting strategies are associated with each other, and with work engagement and workaholism. The second research question in Studies II and III was to investigate the job crafting profiles that can be identified among public sector employees and among Finnish school

principals. The third research question was to explore if there were differences between job crafting profiles in terms of occupational well-being (work engagement, workaholism, and COVID-19-related stress). The fourth research question explored job crafting profiles and the meaning of work in terms of reflective-collaborative epistemic approach, servant leadership, and work meaningfulness.

**Table 1.** *The research setting of this dissertation*

Study I		Study II			Study III		
Job crafting strategies	Work engagement Workaholism	Job crafting profiles	Work engagement Workaholism	Epistemic approach	Job crafting profiles	COVID-19-related stress	Servant leadership Work meaningfulness
Continuous workplace learning	Occupational well-being	Continuous workplace learning	Occupational well-being	Meaning of work	Continuous workplace learning	Occupational well-being	Meaning of work

*Note:* Columns above (white) present study variables in each study. Columns below (grey) present variable-related study perspectives.

## **3 Contexts**

### **3.1 Studies I and II**

#### **3.1.1 About the Finnish public sector**

Studies I and II were conducted in three public sector organizations in Finland. The Finnish public sector is known and valued for its efficiency, credibility, and corruption-free structures (Kaufmann & Kraay, 2023). A success factor of the Finnish public sector is its personnel, but they have also been challenged by insecurity and disruptions. Participating organizations were all different from each other. Public sector employees, especially in the educational field, hold broad autonomy, but it is noteworthy that the sector is highly regulated, even contested, and the jobs include statutory duties. In addition, the Finnish public sector has high standards related to transparency and accountability, and the command chain can be complex (OECD, 2017).

### **3.2 Study III**

#### **3.2.1 About the Finnish education system**

Finnish teachers, principals and schools face minimal control on internal standards, and the system widely enjoys trust in Finnish society (Pollari *et al.*, 2018; Simola, 2005). The autonomy at all levels and decentralized education system are typical characteristics of the Finnish education system. Principals' qualification rate in basic education is 98.7%, in upper secondary education 100% and in vocational upper secondary education 90.9% (Puronen & Lappi, 2018). Data collection was performed during the prolonged COVID-19 pandemic in spring 2021 when schools had mainly returned to classroom teaching, but there were still strict regulations and class-specific quarantines in many schools.

## **4 Methods**

### **4.1 Participants**

#### **4.1.1. Studies I - II**

Civil servants were approached in three large public organizations. Participating organizations were selected to include data collection for several different public sector occupations from the municipal and government sectors. All organizations participated voluntarily. In Study I, 213 participants' responses were included in the analyses. In Study II, there were 201 participants who answered all job crafting items and were included in latent profile analysis (response rate 19.4%). The participants from Organization A were teachers, learning assistants, and administrative personnel in a national special education school network. The participants from Organization B were educational and administrative experts and office holders who participate in the national education decision-making. Organization C was technical in nature, and the participants came from a wide variety of professional backgrounds, such as architects, park workers, parking supervisors, information and communications technology (ICT) experts, construction technology experts, administrative personnel, and customer service personnel. The public sector represents a wide range of services and occupations. It is not a homogeneous group, but a spectrum of many contexts and occupations. That is the reason combined data were used in this dissertation, instead of being focused on similarities or differences between organizations of different sizes. The total sample consisted of more females (39.9%) than males (19.7%), and the percentage of missing gender data was 40.4%.

#### **4.1.2. Study III**

Study III was part of a longitudinal Principal Barometer, which has been conducted annually since 2019, and is partially aligned with the international study of school principals' health and well-being

(principalhealth.org). Participants were recruited in collaboration with the Finnish School Principals' Association. Of the 1,400 Finnish school principals who were contacted, the study participants were 459 respondents in 2021 (response rate 33%). Participants were asked through multiple choice questions what their current job description was, and if they worked as a principal on a full-time or part-time basis. Of all the participants, 64% reported being administrative principals without teaching duties, 14% reported being principals with teaching duties, and 22% did not report their principal status. Of the principals, 47% reported being women and 33% reported being men, whereas 20% of the participants did not report their gender.

## **4.2 Materials**

Table 2 shows the study contexts, methods and measures used in data collection to investigate and answer the research questions in this dissertation. The scales were validated in previous research, and I controlled the factor analysis on the modified job crafting scale used in Studies I and II. The sum variables were created from all scales to summarize several variables measuring the same thing in one variable. The sum scores were formed by calculating average sum scores from individual items measuring the same thing, in which case the scale of these sum scores was the same as that of the original variables.

**Table 2.** *Summary of study methods and measurements in Studies I-III.*

<b>Study</b>	<b>Method</b>	<b>What was measured</b>	<b>Study approach</b>
Study I	Survey 2017	Job crafting, Work engagement, Workaholism	Variable-oriented study
Study II	Survey 2017	Job crafting, Work engagement, Workaholism, Reflective-collaborative epistemic approach	Person-oriented study
Study III	Survey 2021	Job crafting, Servant leadership, COVID-19-related stress, Work meaningfulness	Person-oriented study

#### **4.2.1 Studies I and II**

Data were collected from each organization via a survey questionnaire in 2017. Written agreements were made with participating organizations to collect the data. The data consisted of a self-report questionnaire collected for these specific studies. The job crafting scale (Tims *et al.*, 2012) was translated into Finnish, and the whole questionnaire was language-customized for each organization, in collaboration with the organization's contact person. During this customizing process, the questionnaire was made more valid and relevant to the participants by customizing the language and complementing clear instructions and a motivation letter. Attention was paid to the terms and words used in the respective organizations, to avoid common method bias. Participants were allowed to fill in the survey during their working hours. Data were collected for this dissertation study under the supervision of professor Kirsti Lonka and studies were conducted in an ethical and responsible manner, and by complying all relevant legislation (Wager & Kleinert, 2011) of the European Code of Conduct for Research Integrity and the Responsible

Conduct of Research (RCR) guidelines of the Finnish National Board on Research Integrity (TENK, 2019).

### *Job crafting*

In Studies I and II, the original 21-item questionnaire (Tims *et al.*, 2012) was translated into Finnish and modified for the Finnish work life context by the author. A JCS-based scale was used to measure the four strategies of job crafting by using a 19-item measure on a scale from 1 (I totally disagree) to 6 (I totally agree). The scale range was modified from the original range (1-5) to avoid neutral middle responses, and in this way, encouraged participants to concentrate on answering. The scale range in Studies I and II was different compared to the scale used in Study III. Increasing structural job resources was measured with four items in the questionnaire, such as “I make sure that I use my capacities to the fullest.” Two original questions were combined in this dimension, namely, “I try to develop my capabilities” and “I try to develop myself professionally,” into one item: “I try to develop my professional capabilities and my work.” The increasing social job resources dimension was measured with four items in the questionnaire, such as “I ask others for feedback on my job performance.” The original item “I look to my supervisor for inspiration” was omitted from this dimension. The social resources dimension included statements concerning general feedback on one’s work, asking one’s supervisor for guidance, asking colleagues for help, and asking the supervisor about satisfaction with their work performance. The dimension of increasing challenging job demands, had five original items in the questionnaire, such as “If there are new developments, I am one of the first to learn about them and try them out.” The decreasing hindering job demands dimension had six original items in the questionnaire, such as “I make sure that my job is mentally less intense.” This dimension in the questionnaire included statements about mental, emotional, social, and cognitive behavior. In Study III the original 21-item questionnaire of Job Crafting Scale was used (Tims *et al.*, 2012). Four sum scores in these studies (I-III) were created by combining items representing each job crafting dimension. The sum scores are presented in Table 3 and Table 4.

### *Work engagement*

Studies I and II used the Finnish version of the UWES-9 questionnaire (Schaufeli *et al.*, 2006; Hakanen, 2009). The items were scored on a seven-point frequency scale from 1 (never) to 7 (every day). The UWES-9 measures three separate dimensions of work engagement: 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 am immersed in my work”). The sum score was created in Studies I and II to represent the overall work engagement, including vigor, dedication, and absorption (Table 3).

### *Workaholism*

Studies I and II measured workaholism using the Work Addiction Risk Test questionnaire developed by Robinson (1999). The questionnaire included four items measuring excessive work (e.g., “I often work even after my co-workers have already finished their workday”) and sense of duty (e.g., “I feel guilty when I am not working on something”). Items were scored on a seven-point frequency scale from 1 (never) to 7 (every day). The sum score was created in Studies I and II to represent the overall workaholism representing excessive work and the sense of duty (Table 3).

### *Reflective-collaborative epistemic approach*

Study II measured the reflective-collaborative epistemic approach by using six items from the original MED NORD questionnaire (Lonka *et al.*, 2008). Scales of metacognition and collaborative knowledge construction formed the reflective-collaborative approach (Lammassaari *et al.*, 2021; Lonka *et al.*, 2021). The statements were rated on a previously validated six-point Likert scale (McLaughlan & Lodge, 2019; Lonka *et al.*, 2008; Lonka *et al.*, 2021). Scale 1 to 6 (1 = totally disagree, 2 = disagree, 3 = partially disagree, 4 = partially agree, 5 = agree, 6 = totally agree). The original questionnaire was modified by bringing it into a wider work context, and the language in it was customized in collaboration with the organization’s contact person. For example, the item “In my opinion, it is important that students generate new ideas together” was transformed into the item “In my opinion, it is important that colleagues generate new ideas together” and the item “By learning to know their own ways of thinking, students achieve much better learning results” was transformed to be “Learning to know own ways of thinking is the most important factor promoting professional

development". The sum score in Study II was created to represent the overall reflective-collaborative epistemic approach, representing valuing the metacognition and collaborative knowledge building (Table 3).

**Table 3.** *Studies I and II. Instrumental Examples of Questionnaires.*

Scale name	Scale	Items	Example item	Cronbach's $\alpha$
Job crafting strategy of increasing structural job resources	1–6	4	I make sure I use my capabilities to the fullest.	.83
Job crafting strategy of increasing social job resources	1–6	4	I ask others for feedback on my job performance.	.66
Job crafting strategy of increasing challenging job demands	1–6	5	When an interesting project comes along, I offer myself proactively as project co-worker.	.80
Job crafting strategy of decreasing hindering job demands	1–6	6	I make sure that my job is mentally less intense.	.66
Reflective-collaborative epistemic approach	1–6	6	It is important for employees to know how to self-assess how well they manage things.	.75
Work engagement	1–7	9	I am enthusiastic about my work.	.93
Workaholism	1–7	4	I feel guilty when I am not working on something.	.82

*Note.* The Reflective-collaborative epistemic approach used only in Study II. All other variables used in Studies I and II.

### 4.2.2 Study III

In Study III, the data were collected in collaboration with the Association of Finnish School Principals during spring 2021, and the participating candidates received an email introduction from the research group professor. The introduction included the main purpose of the study and an explanation of the voluntary nature of participation. The overall study was conducted in strict compliance with the Finnish Advisory Board on Research Integrity guidelines. The author designed the use of the data with study supervisors and other researchers who were using the same data.

#### *Job crafting*

In Study III, the original 21-item questionnaire of Job Crafting Scale was used (Tims *et al.*, 2012). A JCS-based scale was used to measure the four strategies of job crafting by using a 21-item measure on a scale from 1 (I totally disagree) to 5 (I totally agree). The scale range is different compared to scale range used in Studies I and II. The scale had earlier been translated into Finnish by a research group under Professor Katariina Salmela-Aro, University of Helsinki, Finland. Job crafting sum scores in Study III were created by combining items representing each of the four job crafting strategies. The sum scores are presented in Table 4.

#### *Servant leadership*

The servant leadership scale was modified from original scale validation research (van Dierendonck & Nuijten, 2011), and developed specifically for the Finnish Principal Barometer. Servant leadership was measured in Study III by using an eight-item scale to study school principals' servant leadership in 2021. This scale measured eight dimensions of servant leadership on a scale from 1 (totally disagree) to 5 (totally agree). The dimensions represented 1) empowerment, 2) accountability, 3) standing back, 4) humility, 5) authenticity, 6) courage, 7) interpersonal acceptance, and 8) stewardship. All dimensions were measured with one item, and the fourth item "I constantly criticize teachers for the mistakes they have made" was reverse coded as in the original scale validation (van Dierendonck & Nuijten, 2011). The sum score in Study III was created to represent the overall servant leadership including empowerment, accountability, standing back, humility, authenticity, courage,

interpersonal acceptance, and stewardship (van Dierendonck & Nuijten, 2011). The sum score is presented in Table 4.

#### *Covid-19-related stress*

Principals' stress was measured in terms of their administrative responsibilities and in terms of their concerns about well-being.

*Administrational COVID-19 stress* scale was developed specifically for the Finnish Principal Barometer. Principals' administrative stress sources were measured with four questions (adapted from Upadyaya *et al.*, 2021) concerning principals' administrative work, such as making sure that the school is organized according to regulations. Principals were asked how stressed and concerned they had been in the last three months regarding: 1) "the COVID-19 crisis," 2) "changing instructions regarding the school during the COVID-19 pandemic," 3) "challenges in monitoring compliance with the instructions related to the COVID-19 pandemic," and 4) "implementation of a COVID-19 exit strategy". Questions were answered using 0 (a minor source of stress) to 10 (a significant source of stress). The sum score in Study III was created by including all four items to measure overall administrative COVID-19 stress (Table 4).

The *stress concerning well-being* measurement scale was also developed specifically for the Finnish Principal Barometer. Principals' stressors concerning well-being were measured with four questions (adapted from Dicke *et al.*, 2018; Upadyaya *et al.*, 2021) regarding students', teachers', parents', and principals' own emotional, social, and mental well-being (Dicke *et al.*, 2018). Principals were asked how stressed and concerned they had been in the last three months regarding: 1) "students' well-being," 2) "teachers' well-being," 3) "parents'/guardians' well-being," and 4) "your own well-being". Questions were answered using 0 (a minor source of stress) to 10 (a significant source of stress). Cronbach's alpha was .78. The sum score in Study III was created by including all four items to measure overall stress concerning well-being (Table 4).

#### *Work meaningfulness*

Principals' work meaningfulness was measured with three items from COPSQ II, work organization and job contents (Pejtersen *et al.*, 2010). COPSQ has been used for assessing the psychosocial work environment at workplaces in several studies since 2000 (Pejtersen *et al.*, 2010). The items concerned the meaningfulness that principals reported in their work: 1) "Is your work meaningful?" 2) "Do you feel that your work is

important?” and 3) “Do you feel motivated and participated?” Questions were answered using 1 (to a very small extent) to 5 (to a very large extent). Cronbach’s alpha for these items was .85, which is higher than in earlier scale validation ( $\alpha$  .74) (Pejtersen *et al.*, 2010). The sum score in Study III was created by including all three items to measure overall work meaningfulness (Table 4). The scale of work meaningfulness is part of the longitudinal international study of school principals’ health and well-being ([principalhealth.org](http://principalhealth.org)).

**Table 4.** *Study III. Instrumental Examples of Questionnaire.*

<b>Scale name</b>	<b>Scale</b>	<b>Items</b>	<b>Example item</b>	<b>Cronbach's <math>\alpha</math></b>
Job crafting strategy of increasing structural job resources	1–5	5	I try to make sure I use my capabilities to the fullest.	.74
Job crafting strategy of increasing social job resources	1–5	5	I ask others for feedback on my job performance.	.53
Job crafting strategy of increasing challenging job demands	1–5	5	When something new is developing, I am one of the first to know about it and try new way of working.	.72
Job crafting strategy of decreasing hindering job demands	1–5	6	I try to avoid mentally intense situations at work.	.74
Servant leadership	1–5	8	I encourage teachers to come up with new ideas.	.69
Administrational COVID-19 stress	1–10	4	How stressed and concerned you have been in the last three months regarding changing instructions regarding the school during the COVID-19 pandemic?	.86
Stress concerning well-being	1–10	4	How stressed and concerned you have been in the last three months regarding teachers' well-being?	.78
Work meaningfulness	1–5	3	Is your work meaningful?	.85

### **4.3 Data analyses and procedures**

The methodological approaches adopted in this dissertation consist of both variable- and person-oriented methods. All studies were conducted using IBM's Statistical Package for Social Sciences (SPSS) as a data management and as a preliminary analysis tool. Some of the study analyses were conducted in SPSS. Study I-III: Pearson correlation coefficients. The main analyses were conducted using Mplus (Study I: SEM, Study II and Study III: LPA and BCH) (Muthén & Muthén, 2018). Table 5 presents an overview of the statistical data analyses undertaken in each of the current dissertation studies.

**Table 5.** *Overview of the statistical data analyses used in Studies I-III.*

<b>Study</b>	<b>Main approach</b>	<b>Missing data</b>	<b>Estimation</b>	<b>Modelling</b>
Study I	variable oriented	Maximum likelihood (FIML)	Maximum likelihood (FIML) with robust standard errors (MLR)	Confirmatory factor analysis, Structural Equation Model (SEM)
Study II	person-oriented	Maximum likelihood (FIML)	Maximum likelihood (FIML) with robust standard errors (MLR)	Latent profile analysis (LPA), auxiliary measurement-error-weighted-method (BCH)
Study III	person-oriented	Maximum likelihood (FIML)	Maximum likelihood ratio test (LMR)	Exploratory factor analysis on servant leadership, Latent profile analysis (LPA), auxiliary measurement-error-weighted-method (BCH)

#### 4.3.1 Study I

In Study I, the focus was on investigating job crafting mean differences and associations between all job crafting strategies, work engagement, and workaholism. The relationships within job crafting strategies and between job crafting strategies and work engagement, and workaholism were studied with a variable-oriented approach.

Confirmatory factor analysis (CFA) was used to test the measurement model for the four job crafting dimensions presented by Tims *et al.*, 2012. This was necessary because translation and modification altered the original and validated scale. Also, the full measurement model was tested (including job crafting, work engagement, and workaholism). Good model fit was confirmed for the conceptual CFA model (chi-square (144) = 226.557,  $p < .001$ ; RMSEA = .053; CFI = .917; TLI = .901; SRMR = .072), which linked the four job crafting dimensions, work engagement, and workaholism (chi-square (446) = 684.717,  $p < .001$ ; RMSEA = .051; CFI = .915; TLI = .906; SRMR = .080) (Table 6). The internal consistency of the factors was assessed by computing the bootstrapped confidence intervals and point estimates of McDonald's omega coefficients using the MBESS R package (Kelley, 2016). The pre-analysis was conducted by Pearson correlation coefficients. In Study I, due to the complexity and multidimensionality of the variables, Structural Equation Modeling (SEM) was used to explore the four dimensions of job crafting and their relations to work engagement and workaholism. In the SEM, the four job crafting strategies were treated as independent factors. The work engagement and workaholism factors were treated as dependent variables.

**Table 6.** *Study I and Study II. Summary of model fit* (Nissinen, T. S., Maksniemi, E. I., Rothmann, S., & Lonka, K. M. (2022). Balancing work life: job crafting, work engagement, and workaholism in the Finnish public sector. *Frontiers in Psychology, 13*, 817008.).

	Fit indices										
	$\chi^2$	scf	df	p	RMSEA [CI 95%]	CFI	TLI	SRMR	AIC	BIC	ABIC
Job crafting											
CFA conceptual model	293.029	1.1257	146	< .001	.071 [.06, .08]	.852	.826	.079	12600.944	12865.575	12665.981
CFA statistical model	226.557	1.1501	144	< .001	.053 [.04, .07]	.917	.901	.072	12592.159	12806.874	12600.944
Job crafting, work engagement, and workaholism											
CFA conceptual	733.729	1.0739	447	< .001	.055 [.05, .06]	.898	.887	.081	20698.709	21076.393	20718.349
CFA statistical	684.717	1.0699	446	< .001	.051 [.04, .06]	.915	.906	.080	20645.343	21026.369	20665.157
Structural model	684.717	1.0699	446	< .001	.051 [.04, .06]	.915	.906	.080	20645.343	21026.369	20665.157

*scf* = scaling correction factor for MLR estimator; *AIC* = Akaike Information Criterion; *BIC* = Bayesian Information Criterion; *ABIC* = sample-adjusted BIC. *CFI*, comparative fit index; *TLI*, Tucker-Lewis index; *SRMR*, standardized root mean square residual; *RMSEA*, root mean square error of approximation.

### 4.3.2 Studies II and III

In Studies II and III, the person-oriented approach focused on identifying subpopulations of individuals, who showed different patterns of values for job crafting (Muthén & Muthén, 2018). Compared with a variable-oriented approach, which applies a single model to the whole sample to estimate a single set of parameters, a person-oriented approach relies on the assumption of homogeneity in the population through the estimation of a distinct set of parameters applicable to the various subpopulations present in the sample (Mäkikangas, 2018). The framework states that the interpretation of one of the variables in the profiles is derived from its relative position to scores on other variables in the same profile (von Eye & Bogat, 2006). This means that participants' scores on a certain job crafting strategy could have a different interpretation, depending on the profile and the scores of the other strategies in that same profile. For example, the high score of workaholism may be considered to be “alarming” in one profile, but not so alarming in another profile. This is because high scores in workaholism do not necessarily mean low scores in work engagement or in job resources (Bakker & Demerouti, 2024). Work engagement may buffer the negative effects of workaholism, so that “engaged workaholics” may be in a better situation than “non-engaged-workaholics” (Gillet *et al.*, 2018). Also, several resources may have a buffering effect, which means they generate energy to deal with job demands. Work performance may be boosted if an avoidance-oriented job crafting strategy is combined with high levels of approach-oriented job crafting strategies (Petrou & Xanthopoulou, 2021).

In the present dissertation, Studies II and III examined patterns of job crafting co-occurrence. In both studies, data were analyzed using Latent Profile Analysis (LPA; Muthén & Muthén, 2018), which is used to identify hidden subgroups within population based on measured continuous variables. In LPA the differences between the job crafting strategies are explained via differences in their mean values between the profiles. The latent variable indicators are continuous, assuming that indicators are normally distributed within each latent profile. LPA is model-based analysis, which means that the researcher can test different models, and analyze their goodness of theoretical fit before finally determining the

number of profiles for clarity and interpretation. There is no absolute fit for latent profile models, but it is desirable to have a latent profile model with a high degree of class homogeneity along with a high degree of class separation (Masyn, 2013). Researchers have to rely on theoretical and practical considerations to choose the best model, because it is not possible to know the “true” number of latent classes (Masyn, 2013). It is important to ensure that the resulting model and the identified profiles correspond to interpretable and meaningful classifications of individuals (Ferguson *et al.*, 2020).

All the LPA analyses were performed using the Mplus statistical package (Version 8; Muthén & Muthén, 2018) and the estimation method was maximum likelihood with robust standard errors (MLR). The LPAs were performed for different latent pattern solutions, and the result fit indices and frequencies were compared. Six criteria were used to decide the final number of classes: (1) the Bayesian information criterion (BIC), and (2) the Adjusted Bayesian Information Criterion (ABIC), (3) the Akaike information criterion (AIC), according to which, the model with the smallest value is considered to be the best model; (4) the Vuong-Lo-Mendell-Rubin (VLMR) test of fit, that compares solutions with different numbers of profiles; (5) entropy value, that determines classification quality and is expected to be close to 1.0, or at least 0.80 (Ferguson *et al.*, 2020), but it is still considered to be acceptable when larger than 0.70 (Celeux & Soromenho, 1996); and (6) the clarity and interpretation of the profiles. The estimation was performed step-by-step, starting from the one-pattern solution.

In Study II, the estimation was performed step by step starting from the one-pattern solution to estimate parameters up to five-class solutions. Adjusted Bayesian Information Criterion (ABIC), and Akaike’s Information Criterion (AIC) reached lowest point for the three-profile solution. In contrast, the highest Entropy value was found for a model with five profiles (Entropy=0.803), and after that, in the four-profile solution, but the model significance was far from acceptable in these solutions. The *p*-values from the Vuong-Lo-Mendell-Rubin likelihood ratio test (VLMRT) and Lo-Mendell-Rubin test (LMRT) were used to investigate how a model significantly fits the data (Ferguson *et al.*, 2020). The *p*-values supported a two-profile solution, which was contrary to BIC, ABIC, AIC, and Entropy values. Two profile solution showed the extremes of the data,

and in addition to these statistical measures, the interpretability of the profiles also needed to be considered, when deciding on the profile model (Wang & Wang, 2012). Because most of the goodness-of-fit indices and interpretability of the profiles supported the three-profile solution, a decision in favor of the three profiles was made (Table 7).

In Study III, the estimation was performed step by step, starting from the one-pattern solution to estimate parameters up to seven-class solutions. LPA results showed that the Bayesian information criterion (BIC) began to decrease when additional latent classes were in a two-pattern solution. BIC continued to decrease with multiple class solutions, but the  $p$ -value for LMR (Lo-Mendell-Rubin Test) was no longer acceptable, except in a three-class profile solution. Differences in the goodness-of-fit indices between two-pattern and four-pattern profile solutions were that the four-pattern solution included one very small profile (3.5%). I examined the four-pattern solution, but the minor profile (consisting of less than 5% of the participants) was considered to be too small to produce reliable information, and the latent classes two and three showed similarities in the four-pattern solution. Thus, the results of Study III differed from an earlier job crafting profile study (Mäkikangas, 2018), in which a small, yet over 5%, profile was found with another profile comprising 94 % of the participants. The decision to choose the two-profile solution as the final model in Study III was made according to the interpretability of the solution, which was better than the other solutions (Table 8). The model with more profiles producing better statistical fit is not beneficial to theory or practical application if it reduces ability to define and interpret profiles (Ferguson *et al.*, 2020).

The more detailed investigation between public sector employees' job crafting profile differences regarding work engagement, workaholism, and epistemic approach were examined in Study II by using the auxiliary measurement-error-weighted-method (BCH). In Study III, the investigation between school principals' job crafting profile differences regarding servant leadership, COVID-19-related stress, and work meaningfulness were also examined by using the auxiliary measurement-error-weighted-method (BCH). The BCH method evaluates the mean scores across profiles for continuous auxiliary variables by using a Wald chi-square test (Asparouhov & Muthén, 2021). This method simultaneously considers the model-based membership probabilities and

possible misclassification (standard errors) of LPA, but it does not allow for the auxiliary variables (occupational well-being and meaning of work factors) to change the latent profiles.

**Table 7.** *Study II. Fit indices for the compared latent pattern models* (Nissinen, T. S., Upadyaya, K., Lammassaari, H., & Lonka, K. (2023). How do job crafting profiles manifest employees' work engagement, workaholism, and epistemic approach?. *Vocations and Learning*, 17(1), 21-42.).

Model	BIC	ABIC	AIC	Entropy	$p$ VLMR	$p$ LMRT	Difference in the number of parameters	Group sizes
One pattern	2044.976	2019.631	2018.550	-	-	-	-	201
Two patterns	1970.305	1929.119	1927.362	0.705	0.0001	0.0001	5	70,131
Three patterns	1951.412	1894.385	1891.952	0.763	0.0578	0.0623	5	50,115,36
Four Patterns	1967.644	1894.776	1891.668	0.775	0.3935	0.4062	5	111,7,50,33
Five Patterns	1986.206	1897.497	1893.713	0.803	0.7519	0.7586	5	2,54,107,31,7

*Note.* BIC Bayes Information Criteria, ABIC Adjusted Bayes Information Criteria, AIC Akaike Information Criteria,  $p$ VLMR Vuon-LO-Mendell-Rubin,  $p$ LMRT Lo-Mendell-Rubin

**Table 8.** *Study III. Fit indices for the compared latent pattern models (Nissinen, T., Upadyaya, K., Lonka, K., Toyama, H., & Salmela-Aro, K. (2024). School principals' job crafting profiles and their differences during the prolonged COVID-19 pandemic. International Journal of Organization Theory & Behavior).*

Model	Log-LH	FP	AIC	BIC	ABIC	Entropy	LMR	Group sizes
One pattern	-1,628.405	8	3,272.810	3,305.843	3,280.453			459
Two patterns	-1,528.628	13	3,083.255	3,136.933	3,095.675	0,627	0,000	254,205
Three patterns	-1,491.737	18	3,019.474	3,093.797	3,036.670	0.722	0.187	290,115,54
Four patterns	-1,471.392	23	2,988.785	3,083.753	3,010.758	0.823	0.002	16,234,113,96
Five patterns	-1,461.556	28	2,979.113	3,094.726	3,005.862	0.797	0.284	16,236,109,39,59
Six patterns	-1,451.639	33	2,969.277	3,105.536	3,000.804	0.745	0.062	137,115,97,16,39,55
Seven patterns	-1,444.552	38	2,965.104	3,122.008	3,001.407	0.785	0.702	5,127,135,72,96,8,16

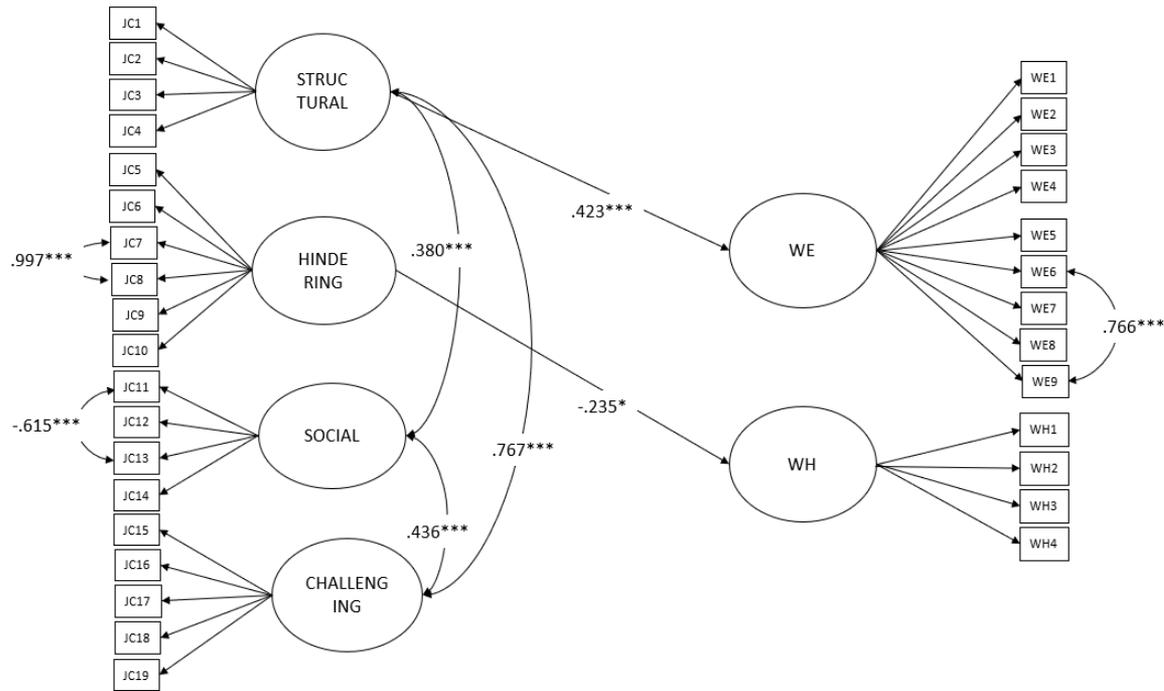
*Note.* Log-LH, log-likelihood; FP, Free Parameters; AIC, Akaike Information Criteria; BIC, Bayes Information Criteria; ABIC, Adjusted Bayes Information Criteria; LMR, Lo-Mendell-Rubin.

## 5 Results

### 5.1 Study I

The first research question in this dissertation was to find out how different job crafting strategies are associated with each other, and with work engagement, and workaholism. Study I participants reported increasing structural job resources the most, second, they reported increasing challenging job demands, and third, increasing social job resources. Decreasing hindering job demands was reported the least. The structural equation model (SEM) showed that approach-oriented job crafting strategies were significantly associated with each other, and that decreasing hindering job demands was not significantly associated with other job crafting strategies. Associations between strategies of decreasing hindering job demands and increasing structural job resources were  $\beta = -.072, p < .464$ , between the strategies of decreasing hindering job demands and increasing social job resources  $\beta = .096, p < .413$ , and between the strategies of decreasing hindering job demands and increasing challenging job demands  $\beta = -.105, p < .379$ .

In Study I, the participants reported a higher level of work engagement than workaholism. SEM analysis showed only the strategy of increasing structural job resources being positively associated with work engagement, and the strategy of decreasing hindering job demands to be negatively associated with workaholism (Figure 4). The any other job crafting strategy was not significantly associated with work engagement (the hindering factor  $\beta = -.055, p < .520$ , the social factor  $\beta = .042, p < .559$ , the challenging factor  $\beta = .127, p < .292$ ). Neither any other job crafting strategy was significantly associated with workaholism (the structural factor  $\beta = .069, p < .628$ , the social factor  $\beta = -.075, p < .423$ , the challenging factor  $\beta = .195, p < .190$ ).



*Note:* Increasing structural job resources (Structural), Decreasing hindering job demands (Hinderling), Increasing social job resources (Social), Increasing challenging job demands (Challenging), Work Engagement (WE), Workaholism (WH).  $*p < 0.01$ .  $***p < 0.001$ . (Nissinen, T. S., Maksniemi, E., Rothmann, S., & Lonka, K. (2022). Balancing work life: Job crafting, work engagement, and workaholism in the Finnish public sector. *Frontiers in Psychology*, 13, 817008.)

**Figure 4.** Study I. Structural Equation Model

## 5.2 Study II

The second research question concerned Studies II and III. In Study II, I investigated the kinds of job crafting profiles that can be identified among public sector employees, and the three-pattern solution was supported. Profiles were described as Active crafters, Average crafters and Passive crafters (Table 9).

### *Active crafters (N 36)*

A profile characterized with the highest use of approach-oriented job crafting strategies and the lowest use of avoidance-oriented strategy was labelled active crafters. Active crafters consisted of nearly one-fifth (18%) of the participants in the public sector.

### *Average crafters (N 115)*

A profile characterized by average and frequent use of all job crafting strategies was labelled average crafters. The average crafters category was the largest profile and contained over half of the participating public sector employees (57%).

### *Passive crafters (N 50)*

A profile characterized by the highest value in decreasing hindering job demands; it was labelled passive crafters. Passive crafters contained a quarter (25%) of the participating public sector employees.

In Study II, it was shown that public sector employees' job crafting profiles differed in terms of work engagement, workaholism, and their reflective-collaborative epistemic approach. Work engagement, workaholism, and reflective-collaborative epistemic approach below the mean level were defined as low, and the scores above the mean level were defined as high. Active crafters were the most likely to score the highest in work engagement. Average crafters were more likely to score higher in work engagement than passive crafters. Both active crafters and average crafters were more likely to report higher workaholism and the reflective-collaborative approach than passive crafters.

**Table 9.** *Study II. Profile Mean values in job crafting.* (Nissinen, T. S., Upadyaya, K., Lammasaari, H., & Lonka, K. (2023). How do job crafting profiles manifest employees' work engagement, workaholism, and epistemic approach? *Vocations and Learning*, 17(1), 21-42.).

Profile	Passive crafters (25%)			Average crafters (57%)			Active crafters (18%)			Overall <i>M</i>
	<i>N</i>	<i>M</i>	<i>SE</i>	<i>N</i>	<i>M</i>	<i>SE</i>	<i>N</i>	<i>M</i>	<i>SE</i>	
Increasing structural job resources	50	3.2	.11	115	4.4	.07	36	5.2	.12	4.3
Increasing social job resources	50	2.8	.10	115	3.2	.08	36	3.9	.20	3.3
Increasing challenging job demands	50	2.8	.10	115	3.8	.09	36	5.1	.12	3.9
Decreasing hindering job demands	50	3.1	.10	115	2.8	.08	36	2.6	.17	2.8

*Note.* Six-point frequency scale for job crafting.

### 5.3 Study III

The second research question concerned Studies II and III. In Study III, I investigated the job crafting profiles which could be identified among Finnish school principals, and the two-pattern solution was supported. Profiles were described as Active crafters and Average crafters (Table 10).

#### *Active crafters (N 254)*

The profile characterized with high use of approach-oriented job crafting strategies and lower use of avoidance-oriented strategy was labelled active crafters. Active crafters consisted of over half (55%) of participating school principals.

#### *Average crafters (N 205)*

A profile characterized with average use of overall job crafting strategies contained nearly half of the school principals (45%) and was labelled average crafters. This profile expressed just below the mean level in all approach-oriented job crafting strategies, and just above the mean level in decreasing hindering job demands.

In Study III, the focus was on school principals' job crafting during the unprecedented and prolonged COVID-19 pandemic. It was shown that school principals' job crafting profiles differed regarding servant leadership, COVID-19-related stress, and work meaningfulness. Servant leadership, COVID-19-related stress, and work meaningfulness below the mean level were defined as low and the scores above the mean level were defined as high. Active crafters were more likely to score higher in servant leadership, in COVID-19-related stress concerning well-being, and in work meaningfulness than average crafters.

**Table 10.** *Study III. Means and standard errors of job crafting profiles among school principals (N=459).* (Nissinen, T., Upadyaya, K., Lonka, K., Toyama, H., & Salmela-Aro, K. (2024). School principals' job crafting profiles and their differences during the prolonged COVID-19 pandemic. *International Journal of Organization Theory & Behavior*).

Profile	Active crafters (N=254, 55%)			Average crafters (N=205, 45%)			Overall M
	N	M	S.E.	N	M	S.E.	
Increasing structural job resources	254	4.2	.06	205	3.3	.08	3.8
Increasing social job resources	254	2.7	.04	205	2.4	.06	2.6
Increasing challenging job demands	254	3.4	.08	205	2.6	.07	3.1
Decreasing hindering job demands	254	1.9	.04	205	2.1	.04	2.0

*Note.* Scale 1–5 in job crafting.

## 6 Discussion

In this chapter, I will first discuss the main and most important findings from this dissertation, study by study. The research overview of this dissertation summary is presented in Figure 5 before limitations. After limitations, I will discuss the overall research questions, including theoretical and practical contributions.

*Study I* applied a variable-oriented approach, and it did not focus only on hierarchical levels of approach and avoidance-oriented job crafting, but also looked at separate job crafting strategies and how they were related with each other and with occupational well-being. The results showed that job crafting strategies aiming to increase job resources and demands were related to each other. The strategy of decreasing hindering job demands was not related to other strategies, suggesting that it is not related to learning, professional development, social activity or new challenges at work. It was shown that only the job crafting strategy of increasing structural job resources was positively associated with work engagement, which implies that employees should be encouraged to engage with behavior representing this strategy. An interesting and less studied finding in terms of occupational well-being is that the strategy of decreasing hindering job demands was negatively associated with workaholism. This indicates that behavior to minimize or optimize job demands may be noted as a valuable strategy for preventing the risk of employee health impairment, and a tool to balance occupational well-being.

*Study II* identified three job crafting profiles: active crafters, average crafters, and passive crafters. Findings showed that public sector employees' job crafting profiles varied considerably. Active crafters experienced high work engagement and high workaholism at the same time. This finding implies that overly active job crafting may increase the risk of workaholism. In turn, the passive profile manifested both a low level of work engagement and a low level of workaholism. The largest group, average crafters, showed higher work engagement than passive crafters, but it seems that average level job crafting was not enough to buffer their high scores in workaholism. These findings suggest that job crafting frequency

and strategy combination has a significant role for employees' occupational well-being.

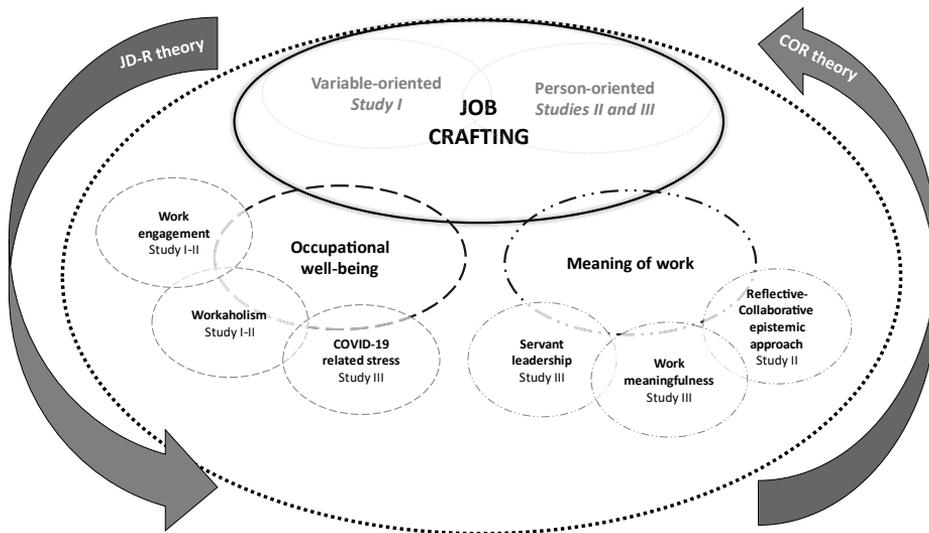
A new meta level factor of reflective-collaborative epistemic approach was explored in terms of job crafting profiles for the first time in Study II. Our findings show that active and average crafters emphasized reflecting their learning and work performance, and they valued knowledge creation collaboration (Lonka, 1997; Lonka *et al.*, 2021; Deng *et al.*, 2014). Passive crafters did not. These findings indicate that a reflective-collaborative epistemic approach may promote job crafting.

*Study III* identified two job crafting profiles: active crafters and average crafters. Active crafters were the larger profile. Profile findings among school principals lack the passive kind of job crafting profile, and it makes these findings interesting in light of the Conservation of Resources theory (Hobfoll, 1989). The COR theory suggests that in conditions of a heavy workload, individuals often decrease their job demands, but avoidance-oriented job crafting was not highlighted in these profiles even though the data were collected during the prolonged COVID-19 pandemic in spring 2021. It has been suggested that the development of digital pedagogy strategies in Finland made teachers' online teaching seamless during the COVID-19 pandemic (Lavonen & Salmela-Aro, 2022). In this reasoning, good digital infrastructure, relevant ICT-tools, and principals' appropriate ICT-competencies along with their job-related autonomy may have acted as tangible resources during the pandemic. One explanation for not finding a passive crafting group may be that principals experienced having job crafting opportunities as they were trying out new online tools and learning new things in their jobs. This implication is in line with JD-R theory, suggesting that leadership in crises requires psychosocial resources, but also tangible resources (Bakker & Demerouti, 2017).

Principals belonging to the active crafters profile reported higher servant leadership behavior and, in this reasoning, they could be acknowledged to be servant leaders. This profile finding also brings novel information to a wider leadership research field, since servant leaders' job crafting behavior has not been studied before. These active crafters experienced higher COVID-19-related stress and higher work meaningfulness than average crafters. This implies that those who experience strong purpose in their work and who aim to serve others may experience higher stress concerning the well-being of others. On the other

hand, the perspective taking competence is typical among servant leaders, and to some extent, it may have increased principals' work meaningfulness and make stressors less depleting for principals in the active crafting profile (Liao *et al.*, 2020; Xu *et al.*, 2020).

In this dissertation I found it useful to investigate job crafting via hierarchical model but also via four separate job crafting strategies. Job crafting is a multidimensional phenomenon and reviewing it via approach-oriented and avoidance-oriented job crafting hierarchies without examining separate strategies might not have brought out all there was to learn. Even though the research field has to some extent moved to a more integrated study approach, I suggest investigating all job crafting strategies to understand findings, such as job crafting profiles, better.



**Figure 5.** *Overview of this thesis summary*

## 6.1 Limitations

In this section, I present the limitations of this dissertation that should be acknowledged. Concerning the participants and the context of the study, the sample size in Studies I and II was relatively small ( $N=213$ ,  $N=201$ ) and most participants were women. However, an effort was made to prevent sample bias in sampling from three organizations and strengthening data

with variety in occupations. The Finnish public sector (Studies I and II) may have some features like corruption-free structures (Kaufmann & Kraay, 2023), which were beyond the scope of the present study, but may be limiting the generalizability in some other organizational systems. Study III included school principals across Finland, and most of the participating principals did not have teaching duties (i.e., they were full-time administrative principals). There may be features, such as high job autonomy or teaching duty, which limit the generalizability of the study findings in other organizations or educational systems. In Finland, only the largest schools' principals do not teach regularly, and therefore, the work of a full-time principal may differ from the work of a principal who has weekly teaching duties. It is possible that during a heavy workload in the prolonged COVID-19 pandemic, the principals with teaching duties did not have time to answer the online survey. Therefore, it is acknowledged that the sample may be biased to present the principals' situations in larger schools. Also, timely features like prolonged COVID-19 pandemic may have affected some of the results and overall findings can be generalized with caution.

There are some issues that should be acknowledged regarding measures used in original studies. Participation in the study was voluntary without any inducements, which might have resulted in a convenience sample. This dissertation had self-report measurements, and it reflects a common method bias if participants behaved according to their answers or if they answered in a socially desirable way (Conway & Lance, 2010; Podsakoff *et al.*, 2012). There may also exist some emotional factors (especially during COVID-19 pandemic) that are not even conscious or that cannot be expressed when responding to a survey.

The operationalization of job crafting was modified in Studies I and II, and the questionnaire and the scale differed from ones used in Study III. This prevents an unambiguous comparison of the results between Studies II and III. Although, the confirmatory factor analysis (CFA) for the job crafting scale was conducted on Studies I and II. Heterogeneous constructs of increasing social job resources (Studies I-III) and servant leadership (Study III) had slightly lower alpha values. The lower alpha in increasing social job resources may have occurred because scale items measured social job crafting from many different perspectives. The lower alpha in servant leadership (.69) may occur because each of the items measured a

different dimension of servant leadership. In the validation research of servant leadership research (van Dierendonck & Nuijten, 2011) the dimensional alphas are on range .69 / .91.

Modifying the language and concepts of reflective-collaborative epistemic approach questionnaire was necessary since the scale was originally developed to fit an educational context and brought into other contexts of work life in this dissertation. This may have decreased the instrument reliability (.75) little from the validation research (.84) (Lamassaari *et al.*, 2021) but was still acceptable and at a similar level as in the first instrument validation research (.71 / .75) (Lonka *et al.*, 2021). Further, there had been no earlier research done about principals in COVID-19 pandemic, so the measurement of stress sources was not validated instead adapted from earlier conducted research (Dicke *et al.*, 2018; Upadyaya *et al.*, 2021). The measurement may be considered to be a contextual measure, not a general one.

This dissertation measured variables that reflected the subjective behavior and experiences of the participants, which could have been difficult for others (supervisor, peers, researcher) to measure (Wrześniewski & Dutton, 2001). For example, not all leader behavior may be observed by followers and therefore self-reporting particularly in Study III was seen as a relevant method (Liao *et al.*, 2020). This should be acknowledged when the results are being interpreted. To reduce biases related to self-reported measures, additional data sources such as diary or behavioral observation (e.g., job shadowing) or heart rate variability measurement (well-being, workaholism, stress) could also be used in future studies and in actual work life to complement and extend self-report data. Improvements could be made regarding research design and procedures. It is possible that data may be affected by issues that were not asked in the questionnaire, such as individual's prior knowledge about job crafting. All studies I-III were cross-sectional and without longitudinal data it was not possible to make causality inferences.

## **6.2 General methodological reflections**

I used quantitative methods in this dissertation by utilizing variable- and person-oriented methodological approaches. Variable-oriented method helps to understand general principles that connect variables on a larger

scale (Laursen & Hoff, 2006). Person-oriented methods focus on characteristics of people or refer to the subjectivity of employee experiences by utilizing methods that classify individuals of the similarity in their scores on a set of variables, i.e., profiling (Howard & Hoffman, 2018). Person-oriented research is more context-specific than largely generalized (Tims *et al.*, 2021), but findings may still be reflected especially in particular kind of people, contexts or in a same type of circumstances. Conducting a person-oriented study is exploratory, which means that a priori hypotheses for the number or nature of the profiles are not present (Mäkikangas *et al.*, 2018). So, in a person-oriented study, the researcher constantly needs to consider the theoretically anchored perspective and model-driven results.

I used Structural Equation Model (SEM) as the main analysis in Study I. SEM analysis estimated results between all multidimensional variables. In the structural equation model, the four job crafting strategies were treated as independent factors and work engagement and workaholism were treated as dependent variables. Thus, in Study I, the mean level associations between all factors were revealed but possible individual or group differences remained unexamined.

Studies II and III were guided by the need to find out if job crafting strategies are used diversely or is their use polarized and how. To find out whether job crafting combinations have a role in balancing job demands and resources, I continued with person-oriented method. This kind of research strategy was seen essential for research validity, as the basic principle was that job crafting behavior, and attitudes result from the unique interplay or patterning of a broad set of characteristics. Latent profile analysis (LPA) was used in Studies II and III to identify the employees' job crafting profiles. LPA avoids the challenge of deciding between different algorithms to measure similarity, but it is an exploratory analysis and requires theoretical rationale of the final class solution i.e., number of profiles. LPA does consider the uncertainty of the object's profile membership by generating probabilities of group membership (Vermunt & Magidson, 2002). The results of the analysis require a comprehensive investigation. For example, in Study III, one suggested profile would have represented under 5% of the participants and therefore was too small.

A person-oriented approach was valuable for identifying complex and multidimensional job crafting strategies into job crafting profiles.

Studies II and III revealed different subgroups of job crafters. Within these groups the job crafting strategies were described by the mean level of each profile, keeping in mind that individuals typically differ even within a particular subgroup. Besides revealing differently combined subgroups of job crafting, a person-oriented approach was used to identify profiles that differ from one another (Mäkikangas *et al.*, 2018). In both samples, the job crafting profiles were compared with respect to different occupational well-being and the meaning of work measures. To supplement LPA, the profile differences were examined in Study II, regarding work engagement, workaholism, and reflective-collaborative epistemic approach. Profile differences in Study III were further investigated also regarding servant leadership, COVID-19-related stress, and work meaningfulness.

By employing both variable- and person-oriented approaches, I was able to take a broader view on job crafting dimensions and their associations with well-being and work meaningfulness. These methodological approaches complement each other and provide a better understanding of these complex associations. For instance, the variable-oriented approach used in Study I indicated that only the strategy increasing structural job resources was positively related to work engagement and only the strategy of decreasing hindering job demands was negatively related to workaholism. However, the person-oriented approach in Study II revealed that job crafting profiles may include diverse job crafting strategies and that workaholism and work engagement occurred simultaneously in job crafting profiles. Study III job crafting profiles showed that COVID-19-related stress occurred simultaneously with high work meaningfulness.

### *Validity and reliability*

Validity and reliability are requirements in quantitative measurement (Kember & Leung, 2009). Validity describes whether the measurement measures what it aims to measure. The face validity examines if participants can understand items as they were supposed to be understood. Customizing the process in Studies I - III aimed to make the questionnaire more face valid and relevant to the participants. The construct validity of job crafting strategies was evaluated by the confirmatory factor analysis (CFA). Criterion validity in all studies was analyzed and confirmed by describing questionnaire reliability. The reliability of all instruments was

analyzed in each study. In Study I, I used McDonald's omega and in Studies II and III Cronbach's alpha was used to assess inner consistency. Validity and reliability were concerned good in all Studies I-III.

### **6.3 Job crafting and occupational well-being**

The first research question concerned job crafting associations between four separate strategies and with work engagement, and workaholism. Some previous job crafting research has not included all these job crafting strategies (Harju *et al.*, 2018; Petrou *et al.*, 2017; van Wingerden *et al.*, 2017a), but this dissertation included them in all Studies I-III. Findings in Study I suggested that employees in Finnish public sector focus their job crafting strategies strongly to increasing their structural job resources. This finding in a multi-occupational sample was in line with previous studies (Hakanen *et al.*, 2018; Rudolph *et al.*, 2017; Seppälä *et al.*, 2020; Toyama *et al.*, 2022). One explanation to the success of increasing structural job resources might be that developing professional capabilities and learning new things at work has familiar organizational driven procedures, which may be easy to begin with in job crafting behavior. Another explanation is that increasing structural job resources may often be possible to do by oneself and might therefore be popular in various occupations. However, increasing structural job resources should not be considered as a tame job crafting strategy. Instead, it also presents proactive attitude and making sure to use one's capacities to the fullest at work.

The findings concerning associations between separate job crafting strategies raised the question if the use of job crafting strategies is unilateral or polarized and does job crafting behavior manifest individuals' approach to work. These questions were further explored in Studies II and III by exploring job crafting profiles. The structural equation model confirmed only the job crafting strategy of increasing structural job resources being positively associated with work engagement. According to JD-R theory's motivational process, this finding implied that by developing professional capabilities and modifying structural aspects of work, e.g., job related tasks or processes, employees experienced work engagement. Noteworthy in Study I is that the job crafting strategy of decreasing hindering job demands was associated with lower workaholism. It is possible that this result refers to employees balancing their workload by job crafting.

People who experience workaholism often feel that they constantly need to perform better and increase their efforts at work (Hakanen *et al.*, 2018). These kinds of high job demands can play an important role in the JD-R health-impairment process (Bakker & Demerouti, 2017; Demerouti *et al.*, 2001). It would be important to discuss about work related goals in workplaces. It might help employees to understand what is expected from them at work, instead they have to assume what is expected from them, and they act according to their assumptions.

To balance the experience of workaholism it may be necessary in some cases to decrease job demands premeditatedly from the minimizing perspective, and to avoid emotional workload or make sure that work is less intense. In other cases, it may be beneficial for the employees' future to utilize avoidance-oriented job crafting from an optimizing perspective, so that work may be done smarter or more efficiently with less energy and without unnecessary or inefficient meetings. Optimizing demands is suggested to be a constructive form of reduction-oriented crafting (Demerouti & Peeters, 2018). Avoidance-oriented job crafting may be worth noting as one valuable strategy for preventing the risk of slipping into workaholism and avoiding the health impairment process. I suggest that it may also increase employees' work meaningfulness if they feel that they are heard in discussion regarding the ways the job should be done, and they are able to concentrate on core processes in their work.

#### **6.4 Job crafting profiles among different groups of employees**

The second aim of this dissertation was to investigate what kinds of job crafting profiles can be identified in two samples: public sector employees (Study II), and school principals (Study III). Profiling aims to extend the understanding of how employees utilize and combine different job crafting strategies in their jobs. These dissertation findings imply that job characteristics in different occupations may contain various amounts and kinds of job demands and resources. In this chapter, I summarize the findings regarding job crafting profiles. First, I will discuss overall findings across profiles. After that, I will address Study II and Study III profiles separately and highlight particularly the points that deserve special attention. Studies II and III applied the same original job crafting measurement (Tims *et al.*, 2012), but they are not compared between

samples because of the scale modification in Study II. The results of Studies II and III were still content-wise and consistent in terms of theoretical and empirical implications.

The results that differentiated participants into different job crafting profiles were the frequency of job crafting strategies. The profiles were not titled based on the highest or lowest scores of the profiling strategies but considering the behavioral trend and relativeness to the rest of the sample. Profile findings in both samples confirmed findings in variable oriented Study I by showing that increasing structural job resources was the most used job crafting strategy across profiles. Profile findings between samples have differences, which suggests that job crafting may exist differently depending on occupational groups, job tasks, or e.g., workplace boundaries.

All results considered, job crafting profiles in both samples included all four strategies and utilizing one job crafting strategy did not exclude another. This finding indicates that job crafting behavior was not unilateral or strongly polarized, even though there were significant differences between profiles. Profiles emphasized approach-oriented job crafting strategies. As mentioned before, the job crafting strategy of increasing structural job resources had a strong role also across all profiles, indicating that employees were developing their competencies, learning new things at work, and making sure that they utilized their capacities to the fullest. Employees may have participated in job-relevant training, re-organized some work processes, re-structured or -scheduled their work, or e.g., used new tools in their work. The strategy of increasing challenging job demands was the second most frequently used, although starting or participating in something new typically requires extra effort. Challenging demands was highlighted particularly among public sectors' active crafters, indicating that employees were proactively seeking opportunities for learning and professional development, volunteered in projects and examined their work field.

These dissertation findings imply that employees belonging to profiles emphasizing these two mostly used job crafting strategies, increasing structural job resources and challenging job demands, were able to enrich their work environment and personal resources (Petrou & Xanthopoulou, 2021). Reflecting through COR theory, it is possible that they were also skillful in resource substitution and replacement, which

means that they were able to find new job resources in their work (Hobfoll, 2001). This kind of job crafting may be seen as successful adaptation to job demands, and it generates new resources which, replenish employees' resource pools and decrease the demands that produce acute and chronic resource losses, as COR theory suggests (Hobfoll, 2001).

These dissertation findings were in line with earlier research (Hakanen *et al.*, 2017; 2018; Seppälä *et al.*, 2020) and showed that increasing social job resources was the least utilized approach-oriented job crafting strategy in all profiles. This finding implies that employees do not have many opportunities to increase their social job resources, or they do not recognize or appreciate the value of social job resources. The question is if we have a lonely workforce, and should we develop our organizational cultures to recognize better social job resources in workplaces? Earlier research has shown that people who experience social support have lower work-related stress than people who do not (Upadyaya *et al.*, 2021).

Finally, avoidance-oriented job crafting; namely decreasing hindering job demands, was mainly low across all profiles, and it did not differentiate profiles. However, this dissertation suggests that the strategy of decreasing hindering job demands may have a valuable role in decreasing experiences of workaholism.

### *Study II*

Profile findings revealed that active, average, and passive job crafting profiles varied considerably. The active crafter profile has similarities with earlier research (Mäkikangas & Schaufeli, 2021; Toyama *et al.*, 2023). They concentrated their energy on learning and professional development (increasing structural job resources), social collaboration (increasing social job resources), and new challenges at work (increasing challenging job demands). These findings suggest that they had such a workload and autonomy in their jobs which motivated them to improve their person-job fit (Tims & Bakker, 2010) and job performance by learning new skills and developing their work and collaboration (Lazazzara *et al.*, 2020). Moderate use of avoidance-oriented job crafting among active crafters may have occurred because in those workplaces, or in a particular occupation, it was not possible to decrease hindering job demands, or such job demands were acceptable part of their jobs (Hobfoll, 1989).

Active crafters may manifest the JD-R theory by showing that employees who are motivated by their work will use job crafting behaviors leading to even higher levels of resources and motivation (Bakker & Demerouti, 2017). According to COR theory (Hobfoll, 2001), we may also assume that the active crafters were successful in resource substitution, replacement, and accommodative coping. Although avoidance-oriented job crafting did not differentiate profiles, it should be mentioned that active crafters scored the lowest in decreasing their hindering job demands. It is possible that active crafters accepted these hindrance job demands, but it may also be that their jobs may have been highly regulated, and hindrance demands were difficult to reduce (Hobfoll, 1989).

The average crafter profile has similarities with earlier research (Mäkikangas, 2018; Mäkikangas & Schaufeli, 2021; Toyama *et al.*, 2023). Instead of seeking new challenges, it seems that average crafters implemented more familiar working ways. This profile, consisting of most of the participants in Study II, implies that job crafting in practice is not necessarily unilateral or polarized to approach- and avoidance-oriented approaches as it is in theoretical hierarchy (Zhang & Parker, 2019).

The passive crafter profile has similarities with earlier research on several occupational groups (Mäkikangas, 2018; Mäkikangas & Schaufeli, 2021; Toyama *et al.*, 2023). Findings among passive crafters indicate that they tried to increase some job resources and learn new things at work, but they emphasized more minimizing hindering constraints that interfere with their work. On the other hand, this finding may also imply that they tried to simplify their work to make it easier or smarter (Demerouti & Peeters, 2018). For example, they may have organized their work in such a way to make sure that they did not have to concentrate for too long a period at once, or they may have minimized contact with people whose expectations are unrealistic. They also may have perceived fewer developing opportunities in their jobs (van Wingerden & Poell, 2017). Also, contextual constraints such as unchangeable work tasks, lack of autonomy, or organizational culture (Boehnlein & Baum, 2020; Dierdorff & Jensen, 2018; Lazazzara *et al.*, 2020) may have influenced their job crafting. It is also possible that they did not have the energy or motivation that approach-oriented job crafting requires (Bakker & Demerouti, 2017; Mäkikangas, 2018). JD-R theory proposes that motivation helps employees to be goal-oriented and focused, because of the energy and enthusiasm to perform well

(Bakker & Demerouti, 2017). By increasing passive crafters' self-efficacious, confidence in their own ability, and encouraging them to undertake job crafting might expand the opportunities they perceive as arising from job crafting and further promoting job crafting behavior (van Wingerden & Poell, 2017).

### *Study III*

When discussing findings of school principals' job crafting profiles, it should be acknowledged that they were in the middle of a prolonged crisis, and may have faced either cultural (e.g., lack of social support) or temporary (e.g., several quarantines) constraints. The active crafter profile among school principals is consistent with earlier research among approach-oriented managers (Mäkikangas & Schaufeli, 2021) and school principals (Toyama *et al.*, 2023) using above mean level approach-oriented job crafting but below mean level avoidance-oriented job crafting. However, managers have earlier reported mostly settling with their existing job crafting opportunities, because of the tension between job expectations and realities (Berg *et al.*, 2010; Pollock *et al.*, 2015), and therefore this large profile (55%) of active crafters was not obvious.

The Conservation of Resources (COR) theory (Hobfoll, 1989) suggests that increasing job resources and job challenges will be limited when the workload is high, and in those situations, individuals are likely to engage in decreasing their job demands. This COR theory suggestion means that during heavy workloads, individuals typically choose to optimize or decrease their job demands instead of developing their competencies, work processes or seeking new projects to participate in. However, the finding among principals during the COVID-19 pandemic is contrary to the expectation from the JD-R and COR theories, that manifesting a heavy workload would have highlighted perceptions of decreasing hindering demands and less proactive behavior in the form of approach-oriented job crafting (Bakker & Vries, 2021; Hobfoll, 2001). This finding is also contrary to an earlier intervention study showing that a heavy workload carries out more behaviors to decrease hindering demands (Knight *et al.*, 2021). Instead of actively avoiding difficult decisions, or avoiding emotionally demanding situations, it seems that principals faced these tasks, and they did not highlight avoidance-oriented job crafting. These findings may manifest principals' high education level and

occupational task, which is to run the school and deal with all situations during school days. These findings may also refer to principals' authenticity and autonomy, which may further increase their inner accountability and work meaningfulness, and possibly promote their learning and development-oriented job crafting, even in difficult situations. The COR theory further sees that those who are well resourced due to their earlier resource gaining efforts are better able to invest resources and place themselves in positions that allow for resource maximization (Hobfoll, 1989). This finding in both principal profiles is consistent with earlier meta-analysis and indicates that difficult circumstances did not prevent job crafting (Rudolph *et al.*, 2021).

Reflecting through JD-R theory, active crafters may have utilized many job resources, even from other life domains. These resources may have buffered their job demands during the COVID-19 crisis (Bakker & Demerouti, 2007; Demerouti *et al.*, 2001; Demerouti & Bakker, 2022), which benefitted them particularly when they were subjected to high demand levels (Bakker *et al.*, 2007). For example, principals' workload may be buffered by autonomy at work and autonomy at home (Bakker & Demerouti, 2023). It is also possible that their epistemic approach to learning promoted their job crafting (Nissinen *et al.*, 2023). The average crafters' profile shows that principals crafted their work, but not very frequently. It is possible that the COVID-19 crisis caused such contextual constraints (e.g., the number of school quarantines), or concerns in other life domains, which may have depleted average crafters' psychological resources (Demerouti & Bakker, 2022; Eva *et al.*, 2019), and caused the lack of energy in increasing their resources (Hobfoll, 2002).

Principals' job crafting profiles indicate that being a principal can be a socially lonely leadership occupation. It is important to understand that social resources and support from the school community are beneficial in protecting against high levels of stress (Upadyaya *et al.*, 2021). Profile findings among principals may also manifest Finnish education system structures. Most Finnish principals have teaching duties in addition to their principal role (lessons to teach), as do their assistant principals. It may be difficult for a principal to find time to increase social resources if workdays are fully booked with teaching and administrative tasks. It may also be a matter of not wanting to disturb or burden colleagues, the assistant principal or a supervisor after the actual workday. Principals in larger schools have

no teaching duties and often have an administrative assistant principal to share leadership with. As the Study III sample of principals represented more of those who do not have teaching duties and who may have an assistant principal to share their leadership with, these findings imply that increasing social resources may be even lower among most Finnish school principals. The conclusion is that in the future, it would be wise to organize school leadership so that shared leadership would be enhanced and possible for all.

### **6.5 Job crafting profile differences regarding occupational well-being**

By investigating whether job crafting profiles differed in terms of occupational well-being, it was possible to examine combined effects and to build a more comprehensive understanding of job crafting and its interplay with occupational well-being. Based on findings in profile differences, this dissertation suggests that it is not necessarily the levels of single job crafting strategies, but their combination and the contextual factors that make job crafting profiles beneficial for employees.

#### *Study II. Profile differences regarding work engagement*

Work engagement varied significantly between all profiles in the public sector: active crafters reported the highest level of work engagement, passive crafters the lowest, and average crafters scored in the middle of these two profiles. This dissertation finding is consistent with the JD-R theory, suggesting that the combination of challenging job demands, and job resources facilitate work engagement and the best job performance (Bakker *et al.*, 2007).

Active crafters' profile among public sector seemed to be the most beneficial in work engagement. Their high work engagement may be due to their active and diverse job crafting strategy combination e.g., trying to make work more challenging by examining the underlying relationships between aspects on ones' work or by asking their supervisor to coach them. These dissertation findings show that neither passive nor average level job crafting resulted in the highest work engagement. Earlier research suggests that it is possible for employees to experience job demands as simultaneously challenging and hindering (Li *et al.*, 2020). For example, time pressure may be experienced as a hindrance as well as a challenge at

the same time. Whether it is experienced as a challenge or a hindrance depends on the interpretation of the employee (Bakker & Demerouti, 2024). Findings indicate that active crafters may have experienced job demands as being more positively challenging than average and passive crafters did. That way active crafters may have experienced a gain cycle, which according to JD-R theory, lead to higher levels of engagement (Bakker & Demerouti, 2024).

The passive crafters' profile emphasized avoidance-oriented job crafting more than the other profiles did, which may indicate them experiencing job demands more hindering. It may further explain the findings regarding their lower work engagement. Passive crafters reporting lower work engagement implies that an avoidance-oriented job crafting strategy without job complexity (Harju *et al.*, 2021) provided by at least an average level approach-oriented job crafting (Petrou *et al.*, 2012), is not enough to increase work engagement. Earlier research findings from Finnish dentists (Hakanen *et al.*, 2018) showed that positive (work engagement, job satisfaction) and negative (workaholism, burnout) types of well-being were associated with different job crafting strategies. In this earlier research, it was shown that engaged employees were less likely to decrease their hindering job demands (Hakanen *et al.*, 2018), which appears to be contrary to passive crafters profile.

This dissertation finding suggests that frequent approach-oriented job crafting, such as workplace learning, interacting with others, and challenging oneself, and premeditated avoidance-oriented job crafting manifest the best job crafting combination in terms of the JD-R theory's motivation process and work engagement. Further, this kind of active job crafting profile may predict future job crafting (Hakanen *et al.*, 2018). Thus, these dissertation findings imply that job crafting frequency and strategy combinations may have a significant role in occupational well-being.

### *Study II. Profile differences regarding workaholism*

Both active and average crafters reported high workaholism. Their scores on workaholism may demonstrate highlighting approach-oriented job crafting strategies (Hakanen *et al.*, 2018) and over engagement by inventing more work for themselves (Clark *et al.*, 2016). Employees in these profiles were more engaged with increasing structural job resources

and challenging job demands than decreasing their job demands. Profile findings tell that they tried to use their capacities to the fullest, they offered themselves proactively as a project co-worker, and they regularly took on extra tasks. This may have increased their time spent at work and dedication to continue working after the end of the workday, which may have further increased the difficulties to detach from work. Consistent with JD–R theory, both challenging and hindering job demands can result in energy depletion and health impairment if they are too high or chronic (Bakker & Demerouti, 2024). These associations may have increased active and average crafters' workaholism scores. Profile findings also imply that active and average crafters may have a heavy workload, tight deadlines, emotional exhaustion, complex tasks (Gillet *et al.*, 2022), role overload or role conflict (Clark *et al.*, 2016). Thus, we must also consider if workaholism was a response to high job demands, not a cause of job crafting. The passive crafters' profile highlighting more avoidance-oriented job crafting than approach-oriented job crafting may reflect psychological detachment from work (Gillet *et al.*, 2022), low workload and simple tasks (Gillet *et al.*, 2022) without role overload (Clark *et al.*, 2016).

Active crafters appeared to benefit the most from work engagement, yet they simultaneously experienced high workaholism. It is possible that active crafters had job demands or work-related constraints which increased their workaholism, but at the same time, they may have enjoyed their job complexity, which increased their work engagement and balanced some of the harmful outcomes of workaholism (Harju *et al.*, 2021). High scores on workaholism without high work engagement may be seen more often among average crafters, which suggests that average level job crafting did not protect employees from experiencing high levels of workaholism. The passive crafters' profile, with low scores on workaholism, implies that decreasing hindering job demands may act as a tangible tool against experiencing high workaholism. By increasing social job resources and challenging job demands, employees might be able to gain work engagement and reduce workaholism (Mazzetti *et al.*, 2014; Zeijen *et al.*, 2018). This finding is noteworthy, particularly among active and average crafters, because strained employees are likely to express self-undermining behavior, which may lead to even higher demands and job strain, as JD-R theory proposes (Bakker & Demerouti, 2017).

These dissertation findings show that employees exhibiting high levels of workaholism may also be highly engaged in their work. However, high workaholism combined with high work engagement may be considered to be a practical concern, because in the long run, this combination may make it hard for employees to detach from work, which may further cause negative outcomes e.g., sleeping difficulties, social conflicts, and burnout (Gillet *et al.*, 2018). Job crafting behavior itself may not be assumed to predict workaholism, but in the combination of high job demands (Gillet *et al.*, 2022), an overwork climate and personal characteristics, particularly neuroticism (Schaufeli, 2016) and perfectionism (Mazzetti *et al.*, 2020), one may dispose to a risk of workaholism. In this same reasoning, job crafting behavior itself may not protect from workaholism but it may be a tangible tool to decrease it. Workaholism should be addressed on individual and on organization level, and these dissertation findings present the need to balance work with the both-and approach, rather than behaving based on the either-or principle. This means that job crafting strategies should be used diversely, and it is essential to learn to combine both approach-oriented and avoidance-oriented strategies. Workaholism is not separated from the organization culture (Clark *et al.*, 2016), and it might be possible to reach an optimal balance by transparently enhancing the organizations' job crafting culture.

### *Study III. Profile differences regarding COVID-19-related stress*

COVID-19-related stress was divided into administrative stress and stress concerning well-being. Job crafting profiles differed only regarding the stress concerning well-being, and both profiles had similarities with earlier research investigating principals' COVID-19-related stress (Upadyaya *et al.*, 2021). However, COVID-19-related stress and job crafting profiles have not been investigated before. I found an interesting dynamic between active job crafting and stress as school principals who reported the highest stress concerning well-being more often belonged to the active crafters profile than to the average crafters profile. This finding suggest that while experiencing high stress, principals may have simultaneously been managing it through job crafting.

These dissertation findings are consistent with COR theory suggesting that people who are required to provide support to others, at times they find themselves in need of support, may experience increased

psychological stress (Hobfoll, 1989). This is called the cost-of-helping process of stress (Riley & Eckenrode, 1986). It may have existed in this prolonged crisis because most of the Finnish school principals (77%) had already reported high or altered levels of stress concerning the school community's ability to cope (Upadyaya *et al.*, 2021). At the same time, principals knew that their support and leadership style were the main job resource for teachers to cope during the COVID-19 pandemic (Lavonen & Salmela-Aro, 2022).

Active crafters' profile findings manifest them experiencing high COVID-19-related stress and regardless of it, they tried to make changes in their job by crafting their jobs. Reflecting on these findings through COR theory I could suggest that active crafters set positioning themselves and their resources in an advantageous position, that is, they actively crafted their jobs to balance resource loss, which was manifested by outsourced regulation of managing the school, for example (Hobfoll, 2001).

Findings are in line with an earlier study (Elomaa *et al.*, 2021) and are concerning from the perspective of using social resources. They imply that the awareness of social support relevancy in crisis may be less known, or that principals may focus increasing their social resources after work. Organizations and employees should pay more attention to social support and acknowledge it as a serious matter. Stress may be decreased by providing social support and appreciation (Upadyaya *et al.*, 2021), which can be expressed by giving feedback or asking for advice. Further, these kinds of social resources might act reciprocally across the school community, and decrease stress among principals, school personnel, students and even among parents. Social resources should be also enhanced in other organizations to decrease stress, because leadership style may be associated with workplace buoyancy (Collie *et al.*, 2020).

While scoring high in COVID-19-related stress, active crafters scored high in servant leadership, which focuses on the needs of employees (van Dierendonck & Nuijten, 2011), but which may also place high demands on leaders (Liao *et al.*, 2021). It is possible that servant leadership characteristics may have influenced principals' stress concerning well-being among active crafters. A recent study states that perspective taking competence (i.e., understanding others' viewpoints or needs) is the key factor whether servant leadership is beneficial or detrimental for leaders (Liao *et al.*, 2021). According to this earlier research, I could interpret these

dissertation findings about COVID-19-related stress so that during pandemic principals may have fewer opportunities or competence in perspective taking behavior (considering employees' views and opinions), which might further have depleted their energy and increased stress experiences. On the other hand, active crafters also scored high in work meaningfulness. These findings are intertwined and discussed in the sections that follow.

## **6.6 Job crafting profiles and the meaning of work**

### *Study II. Profile differences regarding reflective-collaborative epistemic approach*

This dissertation examined if job crafting profiles could be examined through a meta level perspective of epistemic approach. I was motivated to find out how job crafting profiles manifest employees' understanding of their workplace learning, and whether there were differences between profiles regarding the reflective-collaborative epistemic approach. The reflective-collaborative epistemic approach corresponded strongly to approach-oriented job crafting, especially to high increased structural job resources and challenging job demands. Findings revealed that active crafters scored the highest level of reflective-collaborative epistemic approach. Scores were also high among average crafters, and these findings show that employees who reported that it is important to understand their own thinking about learning and knowledge, to self-assess their own abilities at work, and to collaborate and utilize knowledge provided by colleagues did craft their jobs frequently and proactively.

According to JD-R theory (Bakker & Demerouti, 2017), it is possible that the reflective-collaborative epistemic approach acted as a personal resource and made active and average crafters more self-efficacious about developing their abilities in work, which further allowed them to perceive more job crafting opportunities (van Wingerden & Poell, 2017). This finding ties the epistemic approach and job crafting together by pointing out that the reflective-collaborative epistemic approach may be manifested in actual proactive job crafting behavior. In the modern work context, employees valuing reflective-collaborative epistemic approach may typically be active in metacognitive processes stimulating personal

growth and learning i.e., professional development, autonomy (Bakker & Demerouti, 2007) or using time-spatial resources, like selecting workplaces, work locations, and working hours (Wessels *et al.*, 2019).

In contrast, passive crafters reported significantly lower scores of the reflective-collaborative epistemic approach. It may manifest low conformity to job demands, low work renewal intentions, and low collaborative learning. This interpretation may be supported by an earlier study showing that a reflective-collaborative approach was associated with willingness to implement reforms (Lamassaari *et al.*, 2022). Passive crafters' profile refers to lower renewal-oriented behavior and lower social collaboration. Therefore, these study findings suggest that passive crafters may see their work more from the perspective of getting the job done easily and according to given instructions, instead of initiatively crafting their jobs.

### *Study III. Profile differences regarding servant leadership*

School principals who reported higher servant leadership (van Dierendonck, 2011; Greenleaf, 1977) more often belonged to the active crafters than to the average crafters profile. This finding shows that active crafters focused their attention and energy on job crafting and serving others, even during the highly demanding COVID-19 pandemic. Reflecting this dissertation finding through JD-R theory and servant leadership characteristics, it may be that servant leadership, possessed by openness to new experiences and courage to try out new approaches, may be experienced as a personal resource among active crafters (Bakker & Demerouti, 2024; van Dierendock & Nuijten, 2011).

It is possible that the servant leadership approach provided active crafters with some replenishing and restorative disposition against high stress (Liao *et al.*, 2021) and energy depletion outcomes, and principals may have gained themselves a greater sense of purpose during the crisis (Panaccio, Donia *et al.*, 2015). Work has the most meaning when it has a positive impact on others (Steger *et al.*, 2012), and in this perspective, servant leadership and work meaningfulness go hand in hand. This means that serving others or working for others may produce a feeling of self-empowerment, which is shown to have an important meaning for employees and for their work meaningfulness (Rantanen *et al.*, 2020).

Profile findings regarding moderate job crafting by increasing social job resources were interesting, because both job crafting profiles reported high servant leadership that promotes prosocial behavior (Chen *et al.*, 2015) such as persuasion discussion (van Dierendonck, 2011). One explanation for this inconsistency is that job crafting strategy of increasing social job resources focuses on increases in individuals' own social resources, whereas servant leadership is fundamentally about putting explicit emphasis on the need of employees (van Dierendonck & Nuijten, 2011). Thus, it is suggested that these job crafting profiles may be evidence of strengthening the findings of principals' servant leadership focus.

### *Study III. Profile differences regarding work meaningfulness*

Profile differences show that work meaningfulness among active crafters was higher than among average crafters. If employees increase their job resources and demands to strengthen experiences of person-job fit or work identity, it may also cultivate the sense of meaning at work (Wrzesniewski & Dutton, 2001). These dissertation findings suggest that active crafters' profile manifest job autonomy and task significance, which may have increased their work meaningfulness (Rosso *et al.*, 2010), and further enhanced a growth- and purpose-oriented focus to work (Steger *et al.*, 2012). According to COR theory, resources may create the sense that one is capable of meeting stressful challenges (Hobfoll *et al.*, 2018). These dissertation findings indicate that active crafters leveraged job crafting, to increase their work meaningfulness. This dissertation finding among school principals is consistent with earlier research among teachers, which showed that the use of job crafting strategies was beneficial for the meaning of work and helped them to cope with the job demands they perceived to be unreasonable tasks (Mäkikangas *et al.*, 2021). Earlier research has also shown that teachers experiencing high levels of meaningfulness of work was related to their experiences of better health, even in a challenging work context (Minkkinen *et al.*, 2020). This dissertation findings show simultaneous high levels of both stress and work meaningfulness. Even though active crafters experienced high COVID-19-related stress concerning the community's well-being, the strong sense of meaningfulness may have buffered the worst harms of stress.

The average crafters profile combination and earlier research among healthcare professionals (Britt *et al.*, 2021) imply that it is possible for the

lower level of work meaningfulness to relate to lower social resources e.g., receiving less social support from supervisor, teachers or parents. Other people valuing or devaluing one's work may have an impact on the meaning that employees make of their jobs, roles, and themselves in the organization (Wrześniewski *et al.*, 2003). The lower work meaningfulness may also manifest the effect of illegitimate tasks that principals considered to be unreasonable and which conflicted with their professional identity (Mäkikangas *et al.*, 2021). This profile finding is consistent with the JD-R theory suggestion (Bakker & Demerouti, 2017), and implies that when average crafters' strain was extremely high, it may have had a negative impact on their motivation, which may have further been associated with their work meaningfulness (Rosso *et al.*, 2010). School principals' work meaningfulness may have suffered during COVID-19 if they lacked opportunities to work and contribute with others, and if the pandemic disrupted their role awareness as a principal (Buonomo *et al.*, 2020).

## **6.7 Theoretical contribution and future research suggestions**

Work life is complex context and job crafting is multidimensional variable to study. In this dissertation, JD-R and COR theories are considered to be foundational in understanding and explaining these dissertation findings. JD-R theory is defined as an evolving and flexible job design theory, which acknowledges that all workplaces and occupations are unique and may be characterized by various job demands and resources (Bakker & Demerouti, 2024). Because of the adaptivity, JD-R theory enables to explain job crafting in continuously changing work life. However, I see that pairing JD-R benefits with COR theory can explain the possible motives behind job crafting behavior. The present dissertation fully acknowledges the existing research, some overlap with the other literature, and new trends in the job crafting literature (Tims *et al.*, 2021).

Several operationalizations of job crafting exist. It is notable that most qualitative studies have followed the theoretical perspective of Wrzesniewski and Dutton (2001), and quantitative studies have mostly followed job crafting defined by Tims and Bakker (2010). The latter authors grounded job crafting to be active and to lead to tangible changes in work, whereas the former included changing the meaning of work and work identities as part of cognitive job crafting. In the present dissertation,

the Job Demands-Resources Theory is seen as a workplace learning and developing framework (JD-R; Demerouti *et al.*, 2001), and this dissertation focused on the resource-based job crafting model (Tims *et al.*, 2012) as a tangible tool (Decius *et al.*, 2023). This decision was made to ensure a narrow focus and to avoid overlapping with previous research, as studies by Mäkikangas and Schaufeli (2021), and Zhang and Parker (2019) have already explored and debated the two perspectives on job crafting offered by Wrzesniewski and Dutton (2001), and Tims *et al.*, (2012). This dissertation aimed to understand the interplay within job crafting strategies and between occupational well-being and the meaning of work.

### *Occupational well-being*

There have been fewer studies examining work engagement and workaholism together in the context of job crafting. These different types of occupational well-being were considered to be valuable in providing new insights and knowledge about their associations with job crafting strategies and about their differences in job crafting profiles. This kind of knowledge is useful for organizations and for employees manifesting well-being and good job performance.

Findings demonstrated that employees may experience high levels of work engagement simultaneously with high levels of workaholism (Study II; active crafters). This finding contributes to the research field because it was different from earlier studies. Earlier studies among nurses (Gillet *et al.*, 2018), among highly educated university employees (Innanen *et al.*, 2014), and managers (Mäkikangas *et al.*, 2013), found employees' profiles combining work engagement and moderate, not high level of workaholism. Similarly, this dissertation profile finding differs slightly from earlier findings among teachers (Salmela-Aro *et al.*, 2019), who were quite engaged and experienced only emerging symptoms of burnout. Although burnout and workaholism are separate concepts, it has been shown that workaholism may predict burnout (Hakanen *et al.*, 2018). These differences between this dissertation's findings and studies from a few years earlier may imply that the work life has accelerated, which may have further increased job demands, like workload and work intensification. Another explanation for this difference could be that public sector employees experience more workaholism than employees in some other contexts.

Workaholism was investigated in Studies I and II to explore the less studied aspect of the negative associations that job crafting may have (Lazazzara *et al.*, 2020). In this dissertation, workaholism was defined as being high when it was clearly above the mean, and it was defined in the same way in original instrument validation research (Robinson, 1999). Findings highlighted the role of strategy combinations, because the highest workaholism scores but also the significantly highest work engagement was present among active crafters (Study II). However, profile differences indicate that average level job crafting did not provide protection from high workaholism levels (Study II; average crafters). This dissertation also examined the benefits related to avoidance-oriented crafting strategy (Tims *et al.*, 2021). The finding of a negative relation between decreasing hindering job demands and workaholism (Study I) may be seen as one benefit of avoidance-oriented job crafting. This dissertation suggests that decreasing hindering job demands should be noted as a strategy for balancing job demands and resources.

These findings about work engagement and workaholism evoke a question if there are certain bifurcation points for job crafting diversity, frequency, and simultaneously, which affect whether job crafting is associated with more positive or negative outcomes. For example, could some job crafting combinations and activity levels in certain contexts and conditions increase work engagement, but in some other situation, could they increase work engagement so much that an employee may get over engaged and experience health impairment process e.g., workaholism? These findings of occupational well-being encourage us to engage in a deeper exploration of job crafting profiles in various occupations and workplaces, and as Bakker and Demerouti (2024) discuss, future research may focus on the link between job resources and health impairment.

### *Epistemic approach*

This dissertation brought earlier epistemic theory research findings from educational sector (Lammassaari *et al.*, 2021; 2022; Lonka *et al.*, 2021) into other contexts of work life. Reflective-collaborative epistemic approach and job crafting were tied together by revealing that proactive job crafting behavior (increasing structural job resources and challenging demands) manifested high reflective-collaborative approach. Based on the overall profile finding (Study II; active crafter), it seems that employees

with high levels of both work engagement and workaholism may be reflective and active professionals, potentially influenced by their reflective-collaborative epistemic approach. This dissertation also brings out the connection between epistemic approach (Study II) and work meaningfulness (Study III) by discussing what kind of epistemic meaning is given to work and job crafting. The epistemic belief of reflective-collaborative epistemic approach represents knowledge as complex, relativistic and integrated (Lonka, 1997; Lonka *et al.*, 2021; Deng *et al.*, 2014), which indeed manifests the present work life.

A moderate finding in job crafting strategy of increasing social job resources and simultaneously reporting high reflective-collaborative epistemic approach may seem contradictory as they both include communication and interaction. This dissertation finding brings out the difference between reflective-collaborative epistemic approach and social job crafting. The reflective-collaborative epistemic approach reflects metacognition and deeper meaning of collaboration whereas social job resources in job crafting represent more tangible behaving strategies. The findings between reflective-collaborative epistemic approach, structural job resources, and challenging job demands strengthen each other as structural job resources and challenging job demands can be seen as concretization of metacognition.

#### *During COVID-19 pandemic*

School principals' job was highlighted when an unprecedented pandemic disrupted old normal. Principals were situated in the middle of preventing COVID-19 virus from spreading and their job crafting, job stressors and experiences about work meaningfulness in that kind of situation were important to explore to better support them in the next crisis. The job crafting profile findings among school principals (Study III) and the lack of passive kind of profile confirm the future need for exploring various occupations and various managerial occupations because profile findings were not consistent with some earlier research among managers (Berg *et al.*, 2010). Earlier, it was found that managers tend to experience psychological constraints hindering their job crafting opportunities (Berg *et al.*, 2010). This dissertation found that despite reporting high levels of COVID-19-related stress during prolonged crisis, Finnish school principals manifest a larger active crafters profile (Study III; active crafters).

A person-oriented method allowed for investigation and interpretation of job crafting profiles alongside servant leadership. Taken together, these findings suggest that school principals' job crafting may have benefitted from servant leadership. In this dissertation principals' stressors concerning well-being were investigated from concern-perspective, whereas earlier studies among school principals have investigated e.g., parent- and teacher-related stressors more from demands they set for principals (Friedman, 2002; Maxwell & Riley, 2017). Stressors concerning school community's well-being were higher among principals employing actively all job crafting strategies, which may be explained by their strong servant leadership characteristics about putting "followers" first and with JD-R theory about job resources influencing motivation particularly when demands are high (Bakker *et al.*, 2007). These findings may also be seen from the perspective of COR theory as principals may have been trying to build, protect, and invest resources for survival (Hobfoll *et al.*, 2018). These dissertation findings expand the integrative view of various elements of principals' work by exploring job crafting profiles in terms of servant leadership, COVID-19 related stress, and work meaningfulness. Findings among school principals contribute also to wider leadership research in complex organizations, as principals reported to be servant leaders, and servant leaders' job crafting behavior has not been studied before.

#### *Future research suggestions*

The present dissertation focused on job crafting before COVID-19 pandemic (Studies I and II) and during prolonged COVID-19 pandemic (Study III). It would be interesting to conduct follow-up data because the pandemic disrupted work life and forced all to change their ways of working. Did the pandemic allow us to see more opportunities for job crafting (e.g., passive crafters)? To find out if job crafting has changed could help us to develop work life for better and perhaps, we could learn to be better equipped in the possible future crises.

It would also be interesting to conduct a job crafting intervention study to help to develop a successful and well-being-focused workplace where employees are aware of their learning approaches, job crafting competence and are systematically encouraged to try and use them. The education sector should be included in this kind of intervention study to

coach students and teachers to balance demands and resources and to increase the competence needed in future studies and in complex work life. These kinds of interventions could bring out successful job crafting ways because different job crafting combinations may have different outcomes depending on occupation, role, and context.

In the job crafting theory development, it would be important to investigate more different occupational groups and job roles in even deeper detail. Dissertation findings among principals differed from some earlier job crafting studies among managers (Berg *et al.*, 2010; Pollock *et al.*, 2015). This encourages to study several occupational groups because differences may exist in job crafting among different occupational groups. A longitudinal design would allow for investigation of profile changes, and whether versatile or unilateral job crafting profiles are predictors or outcomes of employees' various work-related factors (Frederick & VanderWeele, 2020).

In addition to this dissertation, it is shown in many previous studies that increasing structural resources is the most reported strategy (Hakanen *et al.*, 2018; Rudolph *et al.*, 2017; Seppälä *et al.*, 2020; Toyama *et al.*, 2022). These findings either show that people in different jobs focus their job crafting strategies strongly on increasing structural job resources, or that the job crafting scale (Tims *et al.*, 2012) works best with increasing structural job resources items. The scale of increasing social job resources on the other hand seems to have the most moderate scores across approach-oriented job crafting (Hakanen *et al.*, 2017; 2018; Nissinen *et al.*, 2022; 2023; Seppälä *et al.*, 2020). This finding raises the question if items like “I ask my supervisor to coach me” or “I ask others for feedback on my job performance” are social resources that employees actually use. What would an item like “I collaborate in professional social media networks” or “I may rely on colleague help” bring out?

Extreme work life disruption (COVID-19) made us craft our jobs in unprecedented ways, because there was no time to change the official structures. One example of this is the remote and hybrid working that became the new norm almost overnight (Wang *et al.*, 2021). For specific occupations, like the education and healthcare service sectors, professionals had to adjust their work with new health security practices and find ways to do their jobs (Demerouti & Bakker, 2022). There were also occupations in which the effect was opposite, and workload was

drastically reduced or work totally vanished because of lockdowns. For example, restaurant- and cultural-business had to adjust their operating methods and individuals crafted their jobs to meet the changed demands and new rules. Therefore, I suggest that job crafting scale items should be re-evaluated to match the renewed understanding of working and job crafting opportunities.

Recently, work life has become more familiar with phenomena like quiet quitting (Formica & Sfodera, 2022) and leisure crafting (Petrou & Bakker, 2016; Tsaur *et al.*, 2021). Quiet quitting might be considered to be close to the job crafting strategy of decreasing hindering job demands, although it seeks to balance work with other aspects of life, whereas decreasing hindering job demands has typically concentrated on avoiding or optimizing job demands. Quiet quitting is related to burnout experiences, unpaid overtime, lack of recognition, and lack of time, but the antecedents and its relationship with job crafting and work meaningfulness should be further investigated. On the other hand, leisure crafting is about connecting with others, setting new personal goals or learning new things and combining different life domains to increase meaning in people's life (Petrou & Bakker, 2016).

Various life domains are interconnected (Bakker & Demerouti, 2023), and in the future, it would be interesting to study how people combine crafting in different life domains, and what differences there might be between multilevel crafting profiles. Are some of us more active in all life domains or how typical it is to be active in one life domain, and balance one's energy by engaging in more moderate activity in other life domains? It would be interesting to find out which antecedents or characteristics are combined and how they are associated e.g., with peoples' learning approaches; curiosity, knowledge creation, collaboration, metacognitive thinking or with well-being or with their socio-emotional skills. In addition, it would be interesting to investigate what motivational reasons there may be for job crafting. Is it possible that some may not see job crafting as a tool for workplace learning? What if approach-oriented job crafting strategies are also methods to hinder employees' fear of missing out in the workplace, and that is the reason their participation is more active? Following this reasoning, considering if avoidance-oriented job crafting may enable some employees joy of missing out is needed.

I encourage future study among the workforce and students. It is relevant to extend research into study crafting and find out if crafting behavior has an impact on students' well-being, study meaningfulness, study performance, or later, to their work life experiences. I also see a need for further investigation of supervisors' epistemic approaches with work meaningfulness, because more research is needed about leadership affecting employees and leaders (Panaccio, Donia *et al.*, 2015). For example, it may be a difficult and a hard choice to be a servant leader if the command chain prevents it or totally acts the opposite. To develop sustainable working conditions and increase engagement, it would be important to investigate the beneficial support that active job crafters and servant leaders can have in their organizations. Working and leadership could change for the better.

## **6.8 Practical considerations**

In this chapter, practical suggestions are presented on why and how to enhance optimal job crafting. In terms of future society, an essential issue is the simultaneous development and improvement of employee well-being and workplace productivity. The key point is to understand how to benefit from job crafting. It is also important to understand how various work and well-being related factors interact with job crafting in different contexts. Further, it is significant to be aware of how the epistemic approach guides implications made in work.

The findings in this dissertation show that some people are active job crafters, some are less active, and some seem to be passive in job crafting. Therefore, in practice, *all employees (including managers and leaders) should learn* to pay attention to the job demands they face and to detect job resources they have or gain. People would benefit from being able to reduce the demands of their job by buffering them with resources provided by job crafting strategies. Employees should be encouraged to implement various job crafting strategies because job characteristics in certain contexts may affect what resource combinations have a buffering impact on work demands and stress (Bakker *et al.*, 2007), and job demands will also be less of a strain when more resources are available (Demerouti & Bakker, 2022).

Organizations could *systematically create more opportunities and incentives* for employees to craft their jobs. Findings show that structural resources were the most-used job crafting strategy, and therefore, organizations should increase employees' autonomy to increase their structural job resources, e.g., how to run daily work processes and implement objectives or practices. Incentives could be included in annual job performance evaluations, which often include expertise assessment. Workplaces are different from one another, and employees often know what structures and strategies fit well with each organization, unit or occupation. By including job crafting in the organization culture, it could offer employees opportunities to show how they can craft their jobs and get the job done smarter, even if they are not the ones participating in development projects.

These dissertation findings show that social resources were a moderately-used job crafting strategy. Directors and managers can support and increase employees' social resources in the future by creating an atmosphere of constructive feedback, encouraging participation in professional networks in which people can learn from each other, allocating time for professional success discussions, sharing difficult issues, and counselling about paying more attention to increasing social job resources. Having learned from my dissertation supervisors' example, I suggest rethinking the feedback culture in the workplace into a *feedforward culture*, which focuses on growth- and goal-oriented social support. According to this dissertation, findings regarding decreased workaholism, decreasing hindrance job demands may be noted as an optimizing strategy to balance job demands and resources (Nissinen *et al.*, 2022), but also as a strategy which might motivate employees to begin job crafting. To be more precise, a few proposals for the future are presented:

- Job crafting interventions in workplaces.

Job crafting interventions in workplaces may lead to an optimized work environment, and higher levels of work engagement and performance (Van Wingerden *et al.*, 2017). The intervention is needed particularly in countries with low birth rates like Finland, South Korea, Japan, Taiwan, and China, because the optimal state for employees and organizations is that as many individuals as possible would stay healthy, thereby being

motivated and willing to engage in work as long as possible. This kind of intervention may be considered to be teaching and guidance, which is needed and even required in some workplaces. For example, in Finland, the public administration is required by the Finnish occupational safety law to protect employees (Occupational Safety and Health Act 738/2002). In June 2023, the law was extended to consider employees over 55 years old better. According to the findings from this dissertation regarding work engagement, I have suggested that job crafting strategies could allow all employees to adjust their resources to their job demands better. This suggestion is supported by successful job crafting interventions affecting employees' well-being and job performance, and showing that engaged employees can further gain job resources and work engagement (Bakker & Demerouti, 2017, van Wingerden *et al.*, 2017b).

- Job crafting workshops and progressive training.

This dissertation found that job crafting profiles included differences in levels of job crafting strategies. For example, some increased their structural job resources actively, which refers to the situation in which they were in possession of, and even gained more of those resources. Some others were not as active, which may imply that they did not possess those resources as much as active crafters. According to COR theory's caravan concept, resources tend to stay together long term, unless some inner or outer reason changes the existing situation (Hobfoll, 2001). Thus, this dissertation contributes to practice, and agrees with COR theory, by suggesting that job crafting training should be extensive with employees who lack resources. Furthermore, training may only need to be a light touch for employees who are already well-equipped with resources. Employees, principals, and other managers should be involved in job crafting *workshops and progressive training* to be educated about job demands and resources, to try out job crafting strategies in their own jobs, and to identify the most important job crafting combinations for their needs. Job demands and resources differ regarding occupations and contexts. For example, it is possible that some occupations may offer more autonomy and freedom than others, and some contexts may promote or prevent job crafting (e.g., time-spatial features like pandemic or economic recession).

- Combine bottom-up and top-down perspectives of job crafting and create incentives.

The narrative of this dissertation study is a fast changing and demanding life in the workforce. In this complex context, making sure that job crafting will happen should be considered. Job crafting has been defined as a bottom-up method for renewing one's job. What if it was required in workplaces and schools? What would it mean? The comparison to multiplication tables might not be the best simile, but it illustrates how it should be recognized to get the best of it, even at the organizational and society level. In Finland, there has been a national development program for work and well-being at work. The program was called WORK2030 (Finnish Ministry of Social Affairs and Health). In this program, work life was successfully developed and innovated within several institutions, in many organizations and municipalities, but it still did not reach all. Subsequent years should enhance *combined bottom-up and top-down perspectives of job crafting*, which could foster employee work engagement and organizational performance. Engaged employees and decreasing sickness absences are great advantages for individuals and organizations. To go beyond that, there should be an external incentive for all organizations implementing and further developing job crafting. One reason for taking job crafting further can be presented from the technological industry. Work changes in the industry are occurring rapidly, and it is no longer a matter of crafting a job that is not the same next week. Rather, it will be about utilizing the diversity of job crafting strategies to increase new job resources proactively, and to be better resourced for the future. Building a job crafting culture strengthens organizations' abilities to cope. Job crafting should be launched as one future work life competence that everyone has.

- Enhancing servant leadership

School principals act as sense-giving managers during a crisis (Demerouti & Bakker, 2022) and in periods of continuous change. To minimize their risk of stress that I found in this dissertation, educational organizations should support their leadership with adequate resources and provide them with opportunities to increase those resources by job crafting.

Organizations should enhance servant leadership through a supportive culture and by developing perspective-taking competence across the organization. This might enable principals to replenish their self-controlling resources (Liao *et al.*, 2021), predict their readiness to deal with crisis (Al-Asfour *et al.*, 2022), and increase organizational performance by returning on investments (Peterson *et al.*, 2012).

Servant leadership places the leader in the position to hold the organization in trust. No matter what kind of organization it is, or what kind of mission there is to achieve, it does not hurt if employees trust their leader. The leader needs to be capable of achieving even higher goals with committed personnel. There are differentiating requirements for leaders in various contexts, and there may also be several ways to be a servant leader. How servant leaders implement employee empowerment, employee accountability, standing back, or giving credit, showing humility, authenticity or courage, and empathy or loyalty may vary. In educational organizations there is a whole different kind of autonomy than in the police force or in the military, for example. One might think that there cannot be anything in common with servant leadership and hierarchical organizations. Nevertheless, servant leadership does not exclude command control, which is required in most organizations. Command control is also required in the education system, but autonomy may be wider. Servant leadership holds employees accountable for their jobs and pursues clarity in people knowing what is expected of them (van Dierendonck, 2011). The interaction between servant leadership, goals, and process clarity is strong (Hu & Liden, 2011).

## 7 Conclusions

The framework of constantly and rapidly changing work life inspired me to study job crafting as a tool for continuous workplace learning and from the perspectives of occupational well-being and the meaning of work. These dissertation findings highlight the importance of exploring job crafting from several methodological approaches, and in several occupations and workplaces. Findings showed that increasing structural job resources was the most used job crafting strategy among public sector employees and among school principals. Autonomy is one characteristic feature that represents structural job resources and therefore, this dissertation's findings support developing and enabling employees' job specific autonomy at workplaces.

This dissertation also points out the role of job crafting strategy diversity, combinations, as well as crafting frequencies in balancing job demands and resources. Balance refers to simultaneous use of diverse job crafting strategies, and unbalance refers to skewness in job crafting strategies. Increased frequency and diversity of job crafting associated to benefits in work engagement and work meaningfulness, which both have positive impact on employee's well-being.

The reflective-collaborative epistemic approach was first time explored in terms of job crafting profiles. Findings from this dissertation suggest that this certain epistemic approach might act as an empowering personal resource, and in fact, it was strongly connected to employees increasing their structural job resources and challenging job demands. Furthermore, active crafters among school principals were found to be servant leaders experiencing strong work meaningfulness.

The narrative of work may be changing, and work life seems to be even more complex, intensive, and accelerated. We need to seek solutions to strengthen productivity and avoid being exhausted or becoming overly engaged at work. It may not be enough if job crafting is used only by self-interested employees. Instead, local innovations in organizations may be the key source of workplace learning, well-being, and work meaningfulness. If organizational policies promote job crafting, it will

spread and may change the way job performance, occupational and organizational development, work engagement, and well-being are experienced. *Indeed, job crafting has the potential to increase the ownership and innovation of work.* As discussed in extended JD-R theory (Demerouti & Bakker, 2022), other life domains may spill over and be influenced by each other. Let them do that and let us learn how to benefit from that. It is essential that work life is not just “doable” but also fun and tempting for as many as possible, as often as possible, and as long as possible.

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# Balancing Work Life: Job Crafting, Work Engagement, and Workaholism in the Finnish Public Sector

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The aim of this study was to investigate how job crafting, work engagement, and workaholism were related in public sector organizations. The participants ( $N=213$ ) were civil servants from three Finnish public organizations, representing different professions, such as school personnel, secretaries, directors, parking attendants, and ICT specialists. We duly operationalized job crafting, work engagement, and workaholism by using the Job Crafting Scale, the UWES-9, and the Work Addiction Risk Test. The current study focused on the Finnish public sector, since work engagement is recognized at the governmental level and has been shown to be strongly and positively associated with economic activity and productivity, while workaholism is associated with poor wellbeing. We analyzed the data by using structural equation modeling and found that three job crafting dimensions were strongly intertwined with one another. These dimensions were increasing structural job resources, increasing social job resources, and increasing challenging job demands. In the structural model, dimension “increasing structural job resources” was positively related to work engagement, whereas dimension “decreasing hindering job demands” was negatively associated with workaholism. This study highlighted the relevance of employees learning to balance their job resources and demands. We recommend that, in the public sector, employees be systematically encouraged to practice job crafting behavior by enabling them to increase structural job resources. These results are of high relevance, considering the heavy workload of public sector employees during the COVID-19 pandemic.

**Keywords:** job crafting, work engagement, workaholism, work balance, wellbeing, job resources-demands theory

## INTRODUCTION

Public sector employees face work life demands in a work environment that is itself challenged by the need for high employee flexibility and widespread digitalization, as well as by having an aging labor force (Hazelzet et al., 2019). Therefore, the public sector institution must constantly evolve. However, the continuously changing public sector is different from the private sector. All municipalities are forced to look for new solutions in municipal services because of the changing needs of their residents and the lack of money. Employees’ resilience and

competence, as well as their work contexts, set limits regarding possible solutions (Sotara et al., 2012). The present research concentrated on the public sector to explore job crafting strategies of employees that might be associated with work engagement and workaholism. Despite public sector importance, limited attention has been given to research on potential antecedents of work engagement and workaholism in public service organizations (Mostafa and Abed El-Motalib, 2020). Public sector contexts are rule-based, highly regulated, political, and contested. In addition, the public sector has high standards related to transparency and accountability, and the command chain can be complex (OECD, 2017). In order to deal with public sector features and demands to provide services successfully and to engage top professionals, there is a need to study balance in employees' work lives by considering ways to craft job demands and resources. This is vital, especially after the long pandemic period and the extremely heavy workload among public sector employees.

To sustain a healthy work life in the public sector, it is essential to study how employees' job crafting strategies in terms of job demands and resources affect their wellbeing (Le Blanc et al., 2017). Balancing is imperative from an organizational standpoint, as it reduces turnover and absenteeism caused by employee illness and increases productivity (Roczniewska et al., 2020). Inclusive and dynamic balancing will require mechanisms that can motivate employees, enhance their work engagement, and reduce negative outcomes, such as workaholism. Motivated by the complex public sector working life context, as well as theoretical and empirical contributions in earlier research, this study explored the role of job crafting in relation to work engagement and workaholism among public service employees.

Job crafting entails the changes that employees can make to improve their work (Wrześniewski and Dutton, 2001). Work engagement is defined as a work-intensive and long-lasting positive psychological state (Schaufeli et al., 2002, 2006; Schaufeli and Bakker, 2004, 2010), while workaholism indicates a strong, but compulsory, involvement in work (Ng et al., 2007; Upadaya et al., 2016).

Research has shown that job crafting promotes work engagement, wellbeing, and organizational benefits and increases work performance, but it may also have a connection to workaholism (Wrześniewski and Dutton, 2001; Bakker and Demerouti, 2008; Schaufeli et al., 2008; Petrou et al., 2012; Tims et al., 2012; Kooij et al., 2015; Petrou et al., 2015; Bakker et al., 2016; Harju et al., 2016; Bakker and Albrecht, 2018; Kuijpers et al., 2020; Tóth-Király et al., 2020). Job crafting can strengthen competencies useful for career management and, consequently, moderate the level of job insecurity (Mazzetti et al., 2018) as well as create a pleasant work atmosphere (Tims et al., 2012) and enhance sustainable motivation (Tims and Bakker, 2010; Harju et al., 2016). Furthermore, job crafting often fulfills employees' need for competence and relatedness (Bakker et al., 2016) and is useful in organizational changes. For example, Seppälä et al. (2020) showed that job crafting benefited work engagement among employees whose jobs had recently changed or whose work environment demanded changes. Job crafting may occur in professions of low or high autonomy

(Wrześniewski and Dutton, 2001; Harju et al., 2016; Kuijpers et al., 2020), and organizations can stimulate job crafting behavior through human resource management (Bakker et al., 2016; Akkermans and Tims, 2017).

Even though there have been several previous studies on the topic, there is still a need to explore job crafting in relation to work engagement and workaholism because the biggest changes in 21st-century work have been in relation to the nature of work and the workforce (Kooij et al., 2015). In the present study, we explored job crafting as a tool for employees to adjust their work (e.g., high/low wellbeing and maintaining a sense of competence in relation to the demands of the work). We addressed job crafting dimensions (increasing structural job resources, increasing social job resources, decreasing hindering job demands, and increasing challenging job demands) as independent and combined variables in relation to work engagement and workaholism (Demerouti, 2014).

## Job Crafting

Job crafting is conceptualized from two dominant perspectives, namely, role-based crafting and resource-based crafting. Role-based crafting focuses on changes in work boundaries, work meaningfulness, and work identity (Wrześniewski and Dutton, 2001), whereas resource-based crafting focuses on job characteristics to balance job resources and demands in order to achieve good person–job fit (Tims et al., 2012). Both job crafting perspectives have demonstrated that employees can change aspects of their jobs to achieve person–job fit, higher work motivation, and well-being. Despite the different job crafting perspectives or terminologies (promotion- versus prevention-focused job crafting, or approach versus avoidance crafting), they describe employees enriching or reducing their job boundaries (Zhang and Parker, 2019).

Job crafting can be operationalized through four dimensions, which are based on two types of job resources and job demands. Job resources are physical, mental, social, or organizational aspects of a job that typically reduce job demands or increase work-related goals (Wrześniewski and Dutton, 2001; Tims et al., 2012). Structural job resources are the range of resources that support work goals and stimulate personal growth and learning, such as work variety, opportunities for professional development, and autonomy at work (Bakker and Demerouti, 2007). Wessels et al. (2019) have also suggested the recognition of time-spatial resources, referring to employees actively selecting workplaces, work locations, and working hours. Social job resources are social activity, support, feedback, coaching or mentoring, and attaining interaction at work (Tims et al., 2012). Employees seek job resources the most when they experience considerable work autonomy and high work pressure (Petrou et al., 2012). A lack of these resources may lead to decreased work engagement and increased work stress (Hakanen et al., 2006).

Job demands are physical or mental efforts that employees experience in their job (Wrześniewski and Dutton, 2001; Tims et al., 2012), and they are associated with different outcomes, depending on whether they are hindering or challenging in nature (Crawford et al., 2010). Hindering job demands are physical or psychological efforts that are experienced as costs or

overwhelming demands, such as emotional load or long working periods (Kooij et al., 2015). Challenging job demands are physical or psychological efforts that are rewarding and experienced as accomplishments (Kooij et al., 2015). Hindering demands, such as harmful organizational politics, may block professional progress, whereas challenging demands, such as new work projects, may promote professional progress (LePine et al., 2005). Challenging demands will encourage one to develop new competencies and increase challenging goals, but may also be experienced as a pressure (Demerouti et al., 2001; Bakker and Demerouti, 2007; Podsakoff et al., 2007; Crawford et al., 2010; Tims et al., 2012; Kooij et al., 2015; Bakker et al., 2016). Merely decreasing job demands is not a successful strategy for reducing exhaustion or increasing work engagement because decreasing such demands may affect burnout, but not work engagement (Petrou et al., 2012; Bakker et al., 2016; Van Wingerden et al., 2017b; Mäkikangas, 2018; Seppälä et al., 2020). Job demands may be stressful and challenging at the same time. This implies that lowering job demands may result in less challenging jobs and lower levels of work engagement (Petrou et al., 2015; Schaufeli, 2017b).

According to Hakanen et al. (2018), strategies to craft jobs by focusing on job resources and demands can be categorized as two types: expansive job crafting and decreasing job crafting (Wrzesniewski and Dutton, 2001). Job crafting that is expansive involves a focus on increasing job demands (e.g., seeking challenges), a focus on finding structural resources, and seeking social resources. Decreasing job crafting pertains to actions intended to reduce hindering demands, such as avoiding colleagues who trigger stressful reactions. Tims et al. (2012) found that reducing hindering demands was unrelated to expansive job crafting strategies. Employees' balancing between demands and resources and attempts to gain more resources are in line with the perspective of the conservation of resources (COR) theory (Hobfoll, 2001). According to the COR, people try to hold on to resources that are valuable to them, and individuals who accomplish good resources are in a better situation to invest resources, also in the future. The loss of resources is stressful because individuals have to face work demands with diminished coping capabilities (Hobfoll, 2001).

People who are engaged in expansive job crafting tend to experience their work more positively. They experience meaningfulness, have a better understanding of their work, make better decisions, and are more productive and efficient (Bakker and Demerouti, 2008; Bakker and Albrecht, 2018). According to the job crafting model (Tims and Bakker, 2010), expansive job crafting is associated with positive outcomes, such as work engagement (Tims et al., 2013; Hakanen et al., 2018). Reducing hindering demands is regarded as a mechanism to protect health when job demands are excessively high (Demerouti, 2014). Therefore, higher scores on the dimension "decreasing hindering job demands" can be expected to be associated with lower workaholism.

## Work Engagement and Workaholism

Employees who are engaged or suffer from workaholism are both heavy work investors (Salanova et al., 2014; Cheung et al., 2018). Previous research has drawn a motivational distinction

between a positive form (work engagement) and a negative form (workaholism) of heavy work investment (Mazzetti et al., 2020).

Work engagement is a long-lasting positive psychological state that reflects wellbeing and work-related fulfillment, characterized by vigor, dedication, and absorption (Schaufeli and Bakker, 2004; Schaufeli et al., 2006; Seppälä et al., 2015). Vigor refers to high levels of energy, persistence, resilience, and willingness to invest in work (Tims et al., 2013). Dedication refers to enthusiasm, being strongly involved in work, and experiencing a sense of significance and challenge (Bakker, 2011). Absorption applies to the quality of deeply concentrating on and being focused on work (Tims et al., 2013). According to Bakker and Demerouti (2008), job resources and personal resources, independently or in combination, predict work engagement.

Like work engagement, workaholism also indicates strong involvement in work (Ng et al., 2007; Upadyaya et al., 2016). Strong involvement is associated with high job demands, which may lead to exhaustion, cynicism, and feelings of inefficacy (Demerouti et al., 2001; Hakanen et al., 2006; Crawford et al., 2010). Previous studies (Ng et al., 2007; Schaufeli et al., 2008; Choi, 2013; Molino et al., 2016; Upadyaya et al., 2016) have shown that the relationship between work engagement and workaholism is relatively strong; however, their outcomes are very different. High work involvement does not necessarily have negative effects or expose employees to the risk of workaholism if they are able to balance their job resources and job demands (Yu and Davis, 2016). Engaged employees work hard, and they differ from those who express symptoms of workaholism in the sense that they do not work compulsively, and they choose to do other things besides working in their spare time (Gorgievski et al., 2010).

Workaholism is regarded as the dark side of work engagement because the absorption dimension is often positively associated with workaholism (Schaufeli et al., 2008; Taris et al., 2010; Hakanen et al., 2012; Hakanen and Peeters, 2015; Clark et al., 2016). Thus, employees with strong work-related identities or who suffer from a lack of supervisory support or poor job control skills are at risk for developing workaholism (Schaufeli et al., 2008; Clark et al., 2016; Keller et al., 2016). Employees who experience high workaholism also suffer from physical and mental health problems, sleeping difficulties, work-family conflicts, burnout, and decreasing work performance and life satisfaction (Shimazu et al., 2015; Gillet et al., 2018). Instead, engaged employees frequently have a positive attitude, experience enthusiasm and good health, can shape their personal and job resources, and tend to spread their engagement to others, which will often, in turn, predict higher work performance (Bakker, 2011; Bakker and Sanz-Vergel, 2013; Bakker and Albrecht, 2018).

In previous research, work engagement was characterized as an optimal goal for both employer and employee (Bakker and Bal, 2010; Phelps, 2013). When employees gain more job resources, they experience high work engagement, and such circumstances enable job crafting (Bakker, 2011). A review by Knight et al. (2019) showed that bottom-up

behavior, such as job crafting, was successful in promoting employees' work engagement. Thus, active job crafting could be one prerequisite for stable work engagement (Hakanen et al., 2018).

Studies (e.g., Keller et al., 2016; Cheung et al., 2018) have shown that workaholism is related to heavy workloads, a competitive environment, and a lack of job resources. Therefore, decreasing hindering job demands can be expected to be negatively associated with workaholism. In addition, a study by Hakanen et al. (2018) showed that increasing structural job resources and challenging job demands were positively associated with workaholism. The latter findings can be explained as follows: individuals who suffer from workaholism invest a lot (even going beyond organizational expectations) in order to accomplish their tasks, start new projects, volunteer for additional tasks, and avoid situations that might prevent them from accomplishing their mission and goals (Hakanen et al., 2018). Therefore, people who suffer from workaholism feel that they need to perform better and constantly increase their structural job resources and challenging demands (Hakanen et al., 2018), which may prohibit them from restoring new resources. Also, they eventually become over-exhausted and withdraw from their work or decrease demands to protect and retain their resources (Schaufeli et al., 2009). This process will inevitably require even more investments in stress management and will prohibit workaholics from restoring gains (Hobfoll, 2001). To reduce the risk of slipping into workaholism, it is important to monitor one's level of work engagement and, in that way, manage and maintain conditions for adjusting the level of engagement (Bakker et al., 2011).

## The Aims of the Study

According to earlier empirical and theoretical findings, job crafting, work engagement, and workaholism are significantly intertwined in work life. In this study, we explored their relationships further among public sector civil servants.

Based on earlier research, we expected to find positive associations between the job crafting dimensions, except for decreasing hindering job demands and the other three dimensions (Tims et al., 2012; Akkermans and Tims, 2017). We expected to find positive associations between expansive job crafting strategies and work engagement (Bakker, 2011; Tims et al., 2012; Bakker et al., 2016; Harju et al., 2016). Following longitudinal research of Hakanen et al. (2018) among Finnish dentists, we also expected to find positive associations between workaholism, on the one hand, and dimensions "increasing structural resources" and "challenging demands," on the other hand. We assumed that employees who decreased their hindering job demands were strategic in their work balancing. Thus, we expected to find negative associations between dimension "decreasing hindering job demands" and workaholism. However, we did not expect to find associations between dimension "increasing social resources" and workaholism because previous research had shown deficiencies in workaholics' social relationships (Hakanen et al., 2018). Therefore, the following hypotheses were set:

*Hypothesis 1 (H1):* Different job crafting dimensions are positively associated with each other, except for decreasing hindering job demands.

*Hypothesis 2 (H2):* Expansive job crafting strategies (increasing structural job resources, social job resources, and challenging job demands) and work engagement are positively associated.

*Hypothesis 3 (H3):* Higher scores on the dimensions "increasing structural job resources" and "increasing challenging job demands" are positively associated with workaholism, and higher scores on the dimension of "decreasing hindering job demands" is associated with lower workaholism.

## MATERIALS AND METHODS

### Context and Procedure

The present study was conducted in three public organizations in Finland, in both the governmental and municipal sectors. The questionnaire was language customized for each organization in collaboration with the organization's contact person. During this customizing process, we paid attention to the terms and words that were used in the respective organizations to avoid common method bias. For example, we chose to use the word "team" instead of "group" if it was commonly used in the organization in question. By customizing the language and complementing this with clear instructions and a motivation letter, we made the questionnaire more face valid and relevant to the participants. The director in each organization recommended that the personnel answer the questionnaire, and participants were allowed to fill it out during their working hours. This recommendation indicated the importance of the study. For ethical reasons, participation was voluntary. With these procedural efforts, we tried to obtain accurate answers and increase the participants' motivation to respond (Podsakoff et al., 2012). We conducted the research in an ethical and responsible manner, and it complied with all relevant legislation (Wager and Kleinert, 2011) of the European Code of Conduct for Research Integrity and the Responsible Conduct of Research (RCR) guidelines of the Finnish National Board on Research Integrity (TENK, 2019).

### Finnish Public Sector and Work Life

The Finnish public sector is known and valued for its efficiency, credibility, and corruption-free structures (Kaufmann et al., 2010). A success factor of the Finnish public sector is its personnel, but they have been challenged by insecurity and disruptions. The aim of the Finnish public sector is to develop and produce services in a sustainable and responsible way, so that the conditions for a good life can be secured not only for the present, but also for future generations.

The ongoing WORK2030 program is included in the Finnish governmental program, and its objectives for Finnish work life are to foster a work culture whose foundations lie in

co-operation and trust, to make Finland a leading developer of work life innovations in the digital age, and to make Finland the world leader in wellbeing at work by 2030. In this continuous learning program, the Finnish government enhances workplace learning and networking and promotes competence development (Finnish Ministry of Social Affairs and Health, n.d.). These factors will affect the competitiveness of businesses and the effectiveness of public organizations (Schaufeli, 2017a).

## Participants

We approached 1,100 potential civil servants with this study and reached 213 voluntary participants from three public organizations. The response rate was 19.4%. Organizations A and B were in the field of education. The participants in Organization A were mainly highly educated teachers, teaching assistants, and administrative personnel from a special education school network. In Organization B, the participants were highly educated educational and administrative experts. Organization C was technical in nature, and the participants came from a wide variety of professional backgrounds, such as architects, park workers, parking supervisors, information and communications technology (ICT) experts, construction technology experts, administrative personnel, and customer service personnel. The total sample consisted of more females (39.9%) than males (19.7%), and the percentage of missing gender data was 40.4%. Only Organization C had more male participants than females (see **Table 1**).

## Measures

### Job Crafting

Tims et al. (2012) validated a four-factor job crafting scale (JCS), which was based on the job demands-resources (JD-R) model (Bakker and Demerouti, 2007). The JCS was modified in research by Petrou et al. (2017), Van Wingerden et al. (2017a), and Mäkikangas (2018). In this study, the first author translated the original 21-item questionnaire into Finnish and modified it for a Finnish context. We utilized this JCS-based scale to measure the four dimensions of job crafting by using a 19-item measure on a scale from 1 (*I totally disagree*) to 6 (*I totally agree*). We measured increasing structural job resources with four items in the questionnaire, such as “I make sure that I use my capacities to the fullest.” We combined the two original questions in this dimension, namely, “I try to develop

my capabilities” and “I try to develop myself professionally,” into one item: “I try to develop my professional capabilities and my work.” Cronbach’s alpha was 0.83. We measured the decreasing hindering job demands dimension with six items in the questionnaire, such as “I make sure that my job is mentally less intense.” This dimension in the questionnaire included claims about mental, emotional, social, and cognitive behavior. Cronbach’s alpha was 0.66. The dimension increasing social job resources was measured with four items in the questionnaire, such as “I ask others for feedback on my job performance.” We omitted the original item “I look to my supervisor for inspiration” from this dimension. It included statements concerning general feedback on one’s work, asking one’s supervisor for guidance, asking colleagues for help, and asking one’s supervisor about satisfaction with one’s work results. Cronbach’s alpha was 0.66. The fourth dimension, increasing challenging job demands, had five items in the questionnaire, such as “If there are new developments, I am one of the first to learn about them and try them out.” Cronbach’s alpha for the fourth factor was 0.80. Tims et al. (2012) reported the following Cronbach’s alpha coefficients for the JCS: 0.82 for structural, 0.79 for hindering, 0.77 for social, and 0.75 for challenging.

### Work Engagement

We used the Finnish version of the UWES-9 questionnaire (Schaufeli et al., 2006; Hakanen, 2009). The items were scored on a seven-point frequency scale from 1 (*never*) to 7 (*every day*). The UWES-9 measures three different dimensions of work engagement: vigor, dedication, and absorption. In the UWES-9, the internal consistency (Cronbach’s alpha) previously exceeded 0.85 (Schaufeli et al., 2006) and 0.95 in the Finnish version (Harju et al., 2016). In the present study, the internal consistency was 0.93.

### Workaholism

We measured workaholism using the Work Addiction Risk Test questionnaire developed by Robinson (1999). The questionnaire included four items measuring excessive work and sense of duty. Items were scored on a scale from 1 to 7 as was the case with the work engagement scale. In the Finnish version by Upadyaya et al. (2016), the internal consistency (Cronbach’s alpha) exceeded 0.80. In the present study, Cronbach’s alpha for workaholism was 0.82.

## Data Analyses

For the statistical analyses, we used Mplus version 8.3 (Muthén and Muthén, 2018). Confirmatory factor analysis (CFA) was conducted to test the measurement model for the four job crafting dimensions presented by Tims et al. (2012). This was necessary because translation and modification altered the whole original scale. We also tested the full measurement model (which included job crafting, work engagement, and workaholism). To answer Hypotheses H1 to H3, we used a variable-centered approach, Pearson correlation coefficients, and a structural equation model (SEM) to explore associations

**TABLE 1** | Descriptive statistics of the participants: *N*, gender, and years of work experience.

Participants	<i>N</i>	Background factors			Work experience, <i>M</i>
		Female, %	Male, %	Missing, %	
Total	213	39.9	19.7	40.4	12.0
Organization A	83	53.0	7.2	39.7	12.5
Organization B	38	50.0	21.1	28.9	12.6
Organization C	92	23.9	30.4	45.7	11.0

Missing = missing value for gender.

**TABLE 2 |** Descriptive statistics and correlations for job crafting, work engagement, and workaholism.

Variable	N	M	SD	1	2	3	4	5
1. Increasing structural job resources	201	4.55	1.20	–	–	–	–	–
2. Decreasing hindering job demands	201	2.93	0.90	–0.061	–	–	–	–
3. Increasing social job resources	200	3.33	0.95	0.381**	0.054	–	–	–
4. Increasing challenging job demands	201	4.03	1.21	0.659**	–0.109	0.385**	–	–
5. Work engagement	209	5.75	1.11	0.469**	–0.168*	0.239**	0.398**	–
6. Workaholism	208	4.61	1.50	0.183**	–0.240**	0.004	0.255**	0.210**

Six-point frequency scale in job crafting, seven-point frequency scale in work engagement, seven-point frequency scale in workaholism. \* $p < 0.05$ ; \*\* $p < 0.01$ .

**TABLE 3 |** Summary of model fit.

	Fit indices										
	$\chi^2$	scf	df	p	RMSEA [CI 95%]	CFI	TLI	SRMR	AIC	BIC	ABIC
<i>Job crafting</i>											
CFA conceptual model	293.029	1.1257	146	<0.001	0.071 [0.06, 0.08]	0.852	0.826	0.079	12600.944	12865.575	12665.981
CFA statistical model	226.557	1.1501	144	<0.001	0.053 [0.04, 0.07]	0.917	0.901	0.072	12592.159	12806.874	12600.944
<i>Job crafting, work engagement, and workaholism</i>											
CFA conceptual	733.729	1.0739	447	<0.001	0.055 [0.05, 0.06]	0.898	0.887	0.081	20698.709	21076.393	20718.349
CFA statistical	684.717	1.0699	446	<0.001	0.051 [0.04, 0.06]	0.915	0.906	0.080	20645.343	21026.369	20665.157
Structural model	684.717	1.0699	446	<0.001	0.051 [0.04, 0.06]	0.915	0.906	0.080	20645.343	21026.369	20665.157

scf, scaling correction factor for MLR estimator; AIC, Akaike Information Criterion; BIC, Bayesian Information Criterion; ABIC, sample-adjusted BIC. CFI, comparative fit index; TLI, Tucker-Lewis index; SRMR, standardized root mean square residual; RMSEA, root mean square error of approximation.

between the four different dimensions of job crafting as well as their relations to work engagement and workaholism. In the SEM, we treated the four job crafting dimensions as independent factors. The work engagement and workaholism factors were treated as dependent variables. We assessed the internal consistency of the factors by computing the bootstrapped confidence intervals and point estimates of McDonald’s omega coefficients using the MBESS R package (Kelley, 2016). To assess model fit, we used the following fit indices: the chi-square/df ratio ( $\chi^2/df$ ), the comparative fit index (CFI), the Tucker–Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean squared residual (SRMR). We utilized cutoffs of <0.06 for RMSEA, <0.08 for SRMR, and >0.90 for CFI and TLI (Hu and Bentler, 1999; Schreiber et al., 2006). Estimates were based on maximum likelihood with standard errors robust for non-normality (MLR), and we used full information maximum likelihood (FIML) to handle the missing data.

## RESULTS

**Table 2** shows the descriptive statistics and Pearson correlations for the four job crafting dimensions, work engagement, and workaholism. It shows that participants reported more work engagement ( $M = 5.75$ ,  $SD = 1.11$ ) than workaholism ( $M = 4.61$ ,  $SD = 1.5$ ) in the overall sample. Regarding the job crafting dimensions, participants reported increasing structural job resources the most ( $M = 4.55$ ,  $SD = 1.20$ ) and decreasing hindering job demands the least ( $M = 2.93$ ,  $SD = 0.90$ ).

## Measurement Model for Job Crafting Dimensions

Our conceptual measurement model confirmed the four-factor structure of job crafting (see the model fits in **Table 3**). One 2-item cross-loading was allowed for the decreasing hindering job demands (Hindering) factor and another for the increasing social job resources (Social) factor. The first item pair, in the Hindering factor, was “I manage my work so that I try to minimize contact with people whose problems affect me emotionally” and “I organize my work so that I try to minimize contact with people whose expectations are unrealistic.” The second item pair, in the Social factor, was “I ask my supervisor to coach me” and “I ask others for feedback on my job performance.” These adjustments improved the model fit for the measurement model; this is referred to as the statistical model in **Table 3**. McDonald’s omega internal consistency for the scale increasing structural job resources (Structural) was 0.84, 0.76 for the scale decreasing hindering job demands, 0.68 for the scale increasing social job resources, and 0.84 for the scale increasing challenging job demands (Challenging). Internal consistency for work engagement was 0.96, and that for workaholism was 0.83. The scales (except for increasing social resources) had acceptable omega coefficients compared to the cutoff value of 0.70 (Nunnally and Bernstein, 1994).

Concerning the correlations between the variables, **Table 2** shows that dimension of “increasing structural job resources” was statistically significantly related to dimensions of “increasing social job resources” and “increasing challenging job demands,” work engagement, and workaholism. Dimension of “decreasing hindering job demands” was statistically significantly and negatively

related to work engagement and workaholism. Furthermore, dimension of “increasing social job resources” was statistically significantly related to dimension of “increasing challenging job demands” and work engagement. Also, dimension of “increasing challenging job demands” was statistically significantly related to work engagement and workaholism, although the effect size of work engagement was larger. Finally, work engagement was statistically significantly related to workaholism.

### Associations Between the Four Job Crafting Factors

Figure 1 shows the results of the structural relationships between the latent constructs. According to the SEM analysis, the Structural factor was positively associated with the Social ( $\beta=0.38, p<0.001$ ) and Challenging ( $\beta=0.79, p<0.001$ ) factors. In addition, the Social factor was positively associated with the Challenging ( $\beta=0.44, p<0.001$ ) factor. Associations between the Hindering factor and the other three factors of job crafting were not statistically significant. Thus, Hypothesis H1 was supported.

### Structural Model Linking Job Crafting, Work Engagement, and Workaholism

Good model fit was confirmed for the conceptual CFA model that linked the four job crafting dimensions, work engagement, and workaholism (see Table 3). One 2-item cross-loading was

allowed for the Work Engagement factor: “When I am working, I forget everything else around me” and “I work intensely” (modification index=44.07). Model fit for the structural model was acceptable (see Table 3). Figure 1 shows that, based on our model, the dimension of “increasing structural job resources” was positively associated with work engagement ( $\beta=0.42, p<0.001$ ); thus, Hypothesis 2 was partly supported. Dimension of “decreasing hindering job demands,” in turn, was negatively associated with workaholism ( $\beta=-0.24, p<0.05$ ); thus, Hypothesis 3 was partly supported. Job crafting factors (the independent variables) predicted 31% of the variance in work engagement ( $R^2=0.31, p<0.001$ ) and 12% of the variance in workaholism ( $R^2=0.12, p<0.05$ ).

### DISCUSSION

The present research explored job crafting in association with work engagement and workaholism among Finnish civil servants. Our study covered all job crafting dimensions, and increasing structural job resources was the most often reported dimension. Also, work engagement was reported more often than workaholism. These findings are in line with earlier meta-analysis (Rudolph et al., 2017), which had shown that increasing structural job resources explained more than half of the variability in work engagement. In our sample, we had more female participants, which might have affected the results in terms

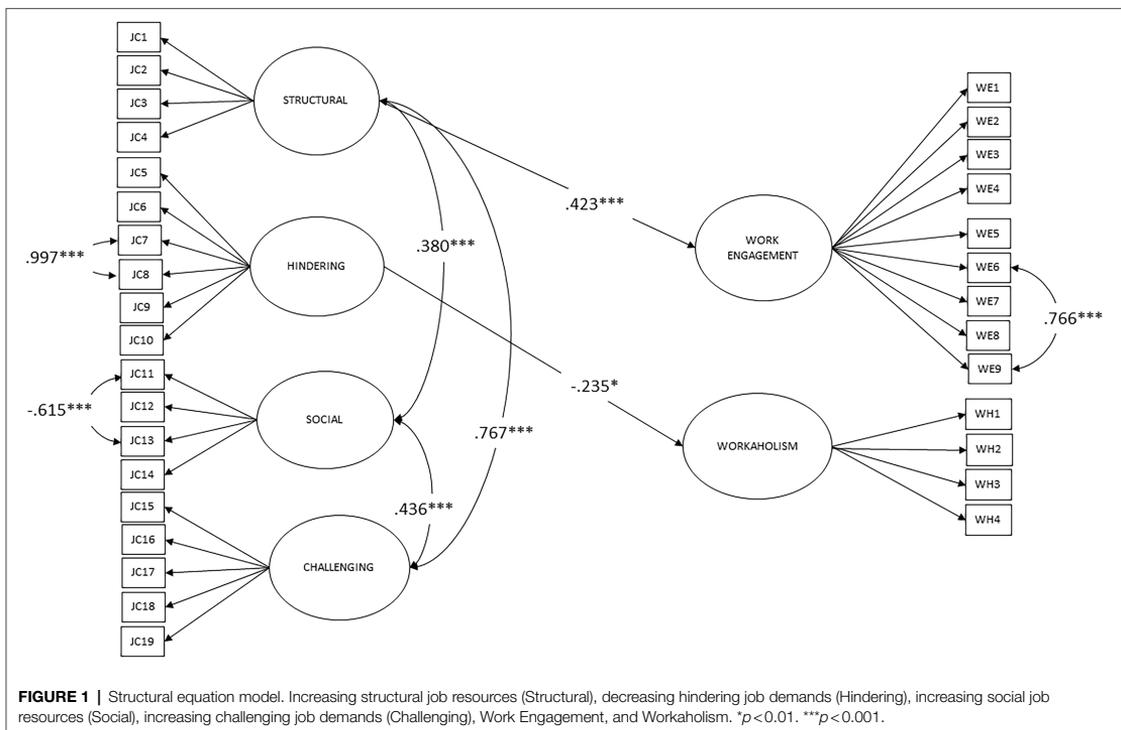


FIGURE 1 | Structural equation model. Increasing structural job resources (Structural), decreasing hindering job demands (Hindering), increasing social job resources (Social), increasing challenging job demands (Challenging), Work Engagement, and Workaholism. \* $p<0.01$ . \*\*\* $p<0.001$ .

of job crafting, as women had previously reported higher levels of job crafting than men (Rudolph et al., 2017). It had also been shown that there was a positive relation between education and job crafting, except with decreasing hindering demands (Rudolph et al., 2017). We noted that Finnish citizens' average educational background was relatively good due to the compulsory, free-of-charge education system. The sample in the current study was not highly educated overall. Consequently, our sample of Finnish civil servants might have affected the results. The Pearson correlation coefficients for all the variables are presented in **Table 2**, and **Figure 1** shows the analyzed results of the structural relationships between all measured variables and latent constructs.

## Associations Between Job Crafting Dimensions

Our first hypothesis concerning associations between the three job crafting dimensions was supported. **Table 2** and **Figure 1** show that the three dimensions were positively associated with each other. It is possible that challenging job demands behavior encourages employees to develop in their jobs. Employees who seek more interesting and challenging goals in their career can show others that they are capable of extra challenges, and job crafting may play a mediating role between career competencies and career success (Akkermans and Tims, 2017). These kinds of mindsets and behaviors are related to increasing structural job resources, which support work goals, stimulate personal growth and learning, and provide variety or autonomy at work (Tims et al., 2012). According to previous studies, social resources are supervisor and colleague feedback, advice, or support and are often described as a response to employees' need for relatedness in the work community (Pinto et al., 2014; Bakker et al., 2016). Work concerns relationships with other people, and these relations are part of the work identity process (Wrzesniewski and Dutton, 2001).

Moreover, the results concerning the associations between the separate job crafting dimensions are in line with earlier findings that had shown that dimensions "challenging job demands" and "increasing job resources" were connected to social behavior (Akkermans and Tims, 2017). Our findings suggested that the fourth dimension, "decreasing hindering job demands," was not related to learning (dimension of increasing structural job resources), professional development (dimension of increasing structural job resources), social activity (dimension of increasing social job resources), or new challenges at work (dimension of increasing challenging job demands). Decreasing hindering job demands may still be an important strategy when the challenge or work intensity is too high in relation to competencies (Inkinen et al., 2014) or when employees become overly engaged in their work. Premeditated decreasing job demands may help mature employees to work longer and stay healthy.

## Associations Between Job Crafting and Work Engagement

Our second hypothesis concerning associations between job crafting and work engagement was answered by Pearson

correlation coefficients and by our SEM model. The coefficient findings supported Hypothesis 2 that expansive job crafting strategies were positively associated with work engagement. The present findings are in line with previous research showing that greater learning opportunities were the strongest predictor of work engagement (Sarti, 2014) and that employees were more engaged when they included increasing challenging job demands in their job crafting behavior (Bakker, 2011; Petrou et al., 2012; Harju et al., 2016; Bakker and Albrecht, 2018) or increased social job resources (Tims et al., 2012). In this study, we had a complex context and multidimensional variables, and when we estimated multiple and interrelated dependence between all variables through our SEM model, only one job crafting dimension had a significant positive association with work engagement, namely, "increasing structural job resources." This finding might indicate that employees developed themselves professionally or modified the functional aspects and tasks of their work to achieve their work goals or to stimulate personal growth.

We found a negative association between dimension "decreasing hindering job demands" and work engagement. This finding is in line with an earlier study that had shown that a reduction in daily job demands had a negative association with daily work engagement and that reducing job demands might cause the job to become less motivating (Petrou et al., 2012). However, this association did not exist in intercorrelation relationships when we explored relationships between all measured variables and latent constructs. This latter finding might be due to the fact that decreasing burdensome job demands might remove some interesting aspects of one's work and increase boredom (Petrou et al., 2012). The correlations in this study showed the association of dimension "increasing challenging demands" with work engagement (Demerouti and Peeters, 2018), although this association did not hold in the structural model. All findings considered appropriate balancing between demands and resources in work can promote work engagement.

## Associations Between Job Crafting and Workaholism

We found positive associations between dimension of "increasing structural job resources" and workaholism and between dimension of "increasing challenging job demands" and workaholism. This finding is in line with previous research that had found that workaholism was associated with increasing structural resources and challenging demands (Hakanen et al., 2018). With correlation coefficients, it is possible to point out the relationships between two variables, but as we stated earlier, the review of indirect relations is needed in studying multidimensional variables and a complex context. These positive association findings between dimension of "increasing structural job resources" and workaholism, as well as dimension of "increasing challenging job demands" and workaholism, were not found when we explored relationships between all measured variables and latent constructs in the structural model. We also found a negative association between dimension of "decreasing hindering job demands" and workaholism. Thus, Hypothesis 3 was partly supported. Our

findings might imply a relationship between avoiding mentally intensive work or difficult decisions, which represent the dimension of “decreasing hindering job demands,” and low workaholism. Referring to earlier research, we could interpret the finding of dimension “decreasing hindering job demands” as presenting either work avoidance behavior (Mäkikangas and Schaufeli, 2021; Petrou and Xanthopoulou, 2021) or constructive optimizing behavior to make work more efficient (Demerouti and Peeters, 2018). However, findings regarding emotionally demanding jobs reported more avoidance of the strenuous aspects of the job (minimizing) than attempts to make work more efficient (optimizing; Demerouti and Peeters, 2018). Our study explored associations between job crafting behaviors and workaholism, and the results suggested that decreasing hindering job demands decreased workaholism. We suggest that decreasing hindering job demands is worth noting as one valuable strategy for optimizing job demands and resources.

## Limitations

The first limitation of this study concerns the small sample size ( $N=213$ ) and low response rate, type of employees (Finnish civil servants), gender distribution (the majority being women), and a considerably high percentage of missing values in gender (40%), which was due to the participants' concern about their anonymity. More studies would be needed in future to explore similar associations in larger data sets.

Second, participation in the study was voluntary without any inducements, which might have resulted in missing values and a sample bias toward employees who were more engaged in their work. Thus, it was not possible to generalize our findings to all Finnish civil servants due to the limited population. However, we made an effort to prevent sample bias by sampling from more than one organization and managed to strengthen our data with some variety in occupations. Our findings are also in line with several previous research studies rooted in the same theoretical background. Moreover, it is possible that there are homogeneous subgroups of employees using different job crafting strategies (Mäkikangas, 2018). Future research could adopt a person-oriented approach to examine job crafting profiles in relation to wellbeing and work performance and in different nationality groups.

Third, only self-report measures were used in the present study. This might give rise to the question whether the participants behaved according to their answers, and therefore, common method bias was possible (Podsakoff et al., 2003; Conway and Lance, 2010). We did, however, consider widely used, reliable, and valid self-report questionnaires to be justified because these variables reflected the subjective experiences of the participants. These variables could have been difficult for others (supervisor, peers, researcher) to measure or time-consuming to measure through other methods (Wrzesniewski and Dutton, 2001).

Fourth, the data were cross-sectional, preventing us from drawing conclusions about how our findings might change or progress over time. The correlations and structural equation model findings obviously indicated nothing about causality. The slightly lower alpha values of two factors (decreasing

hindering job demands and increasing social job resources) might have occurred because these dimensions consisted of items measuring work avoidance and social crafting in many different areas. The low value of internal consistency can be seen as a limitation of this study. Using a longitudinal design in our future research would allow us to observe some temporal trends regarding how job crafting predicts work engagement or workaholism and whether difficult circumstances, such as the COVID-19 pandemic, change job crafting in the public sector.

## Practical and Theoretical Implications

The present study has various implications for job crafting theory and for public sector employers and employees. Most job crafting studies have focused on work engagement as an outcome of job crafting, and only a few studies have examined job crafting and workaholism. Due to our finding of a negative relation between dimension of “decreasing hindering job demands” and workaholism, we suggest that decreasing hindering job demands is noted in theory and in practice as one possible strategy for optimizing job demands and resources. The present findings showed that dimension of “increasing structural job resources” and work engagement were positively associated. According to this finding, we suggest enabling and managing especially structural job crafting among civil servants to affect their work engagement. However, merely encouraging employees to try out new things at work may not increase job crafting (Wolfson et al., 2018), and employees should also be involved in systematic training (Junell and Ståhle, 2011). In addition to creating wellbeing strategies and stimulating individual job crafting, we recommend job crafting intervention programs as an organization-level action (Van Wingerden et al., 2017a). Adjusting job demands and resources is vital for retaining employees' ability to continue working (Le Blanc et al., 2017), especially in unprecedented conditions, such as during the COVID-19 pandemic that has drastically increased the workload.

## DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## AUTHOR CONTRIBUTIONS

TN conceived the research project, conducted the data collection, reported the results, interpreted the findings, and wrote the

manuscript. SR provided guidance on conducting the SEM analysis that TN and EM performed together. SR and KL revised the manuscript. KL guided and oversaw the research. All authors contributed to the article and approved the submitted version.

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# How Do Job Crafting Profiles Manifest Employees' Work Engagement, Workaholism, and Epistemic Approach?

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## Abstract

The present study identifies job crafting profiles of public sector employees and how they differ in terms of employees' work engagement, workaholism, and approach to learning. Participants represent various occupations from educational field (e.g., teachers), technical field (e.g., ICT-experts), and administrative field (e.g., customer servants). Using latent profile analysis, three job crafting profiles could be identified: *Passive crafters* (25%), *Average crafters* (57%), and *Active crafters* (18%). Passive crafters reported the lowest values in all approach-oriented job crafting strategies (increasing job resources and demands) and the highest value in avoidance-oriented job crafting (decreasing hindering job demands). Active crafters reached the highest values in all approach-oriented job crafting and the lowest value in avoidance-oriented job crafting. Average crafters used all job crafting strategies close to the average level. The lowest work engagement, workaholism, and reflective-collaborative approach to learning were reported by passive crafters. Both average crafters and active crafters reported higher workaholism and reflective-collaborative learning approach than passive crafters. Active crafters reported the highest work engagement. Study findings show the interplay between employees' job crafting, work engagement, workaholism, and epistemic approach. This study extends workplace learning research field by offering new theoretical information and is the first one exploring job crafting profiles and their differences regarding employees' epistemic approach; reflective learning, collaborative knowledge-building, and metacognition. Study discusses theoretical contributions and practical implementations, which may be used in work life induction, and in fostering job crafting and continuous workplace learning.

**Keywords** Job crafting · Work engagement · Workaholism · Epistemic approach · Workplace learning

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## Introduction

Life in workforce is constantly changing due to structural and societal changes (Li et al., 2020), work intensification (Korunka et al., 2015), increased mental health challenges (Blomgren & Perhoniemi, 2022), and accelerated digitalization (Hazelzet et al., 2019; Korunka et al., 2015; Mazzetti et al., 2018). Digitalization brings along new job demands but it may also create new opportunities for workplace learning (Harteis, 2022). In fact, continuous self-directed learning via digitalization services (e.g., blogs, YouTube) is perceived as a natural part of work and shared responsibility among ICT employees (Lemmetty & Collin, 2020). Also increased use of AI (Artificial Intelligence) is influencing learning and skill development, knowledge sharing, and e.g., problem solving in workplaces (Pereira et al., 2023).

Increases in speed and number of changes challenge learning and increase stress if employees do not have sufficient resources to deal with them (Hobfoll, 1989). To cope with these challenges, employees need adaptivity, which involves understanding and flexibly using different ways of knowing at work (Markauskaite & Goodyear, 2017). Employees also need tools to learn new skills and to keep up in professional development (Tims et al., 2012). Workplace learning is becoming more important because solving unprecedented work-related challenges often need to be constructed and solved at the very moment they arise (Harteis, 2022; Markauskaite & Goodyear, 2017).

Workplace learning may be increased in work activities (Billett, 2014) by utilizing job-related theoretical knowledge, knowledge learned in practice, and self-regulative knowledge including metacognitive and reflective skills (Tynjälä, 2008; Tynjälä & Gijbels, 2012). In the present study, the Job Demands-Resources Theory is seen as a workplace learning framework (JD-R; Demerouti et al., 2001) and job crafting as a tool for workplace learning (Decius et al., 2023). Job crafting refers to self-regulative behavior (Bakker & Oerlemans, 2019) when employees make concrete self-directed changes at work to better align their job with their own competencies and preferences (Wrześniewski & Dutton, 2001). These self-directed changes are operationalized via four job crafting strategies (Tims et al., 2012; Tims & Bakker, 2010) manifesting job resources and demands. Three of these strategies involve increasing job resources and job demands and one strategy involves decreasing job demands. It is interesting to examine job crafting profiles, as various job crafting strategy combinations may play different roles and have different outcomes regarding well-being and learning (Petrou & Xanthopoulou, 2021). Investigating job crafting may also extend the understanding of developing employees' general working life capabilities (e.g., self-regulation and learning), which may be very valuable in hectic working life (Harteis, 2022). Consequently, this study explores job crafting profiles among public sector employees.

This study further explores whether job crafting profiles differ regarding positive work engagement (Schaufeli et al., 2002) and unhealthy relation towards work, namely workaholism (Clark et al., 2016; Gillet et al., 2018). Work

engagement refers to a long-lasting positive psychological state of well-being and work-related fulfillment of vigor, dedication, and absorption (Schaufeli & Bakker, 2004; Schaufeli et al., 2006). Workaholism is a compulsory attitude towards work, which often has negative impacts on employees' health and work performance (Gillet et al., 2018; Shimazu et al., 2015). Exploring job crafting profile differences in work engagement and workaholism will extend the workplace learning research by offering new theoretical knowledge to utilize in workplace learning and it may increase understanding about how job crafting behavior is associated with well-being and ill-being (Gillet et al., 2022).

Literature on workplace learning often describes workplace circumstances focusing less on learning processes (Harteis, 2022). Therefore, we are motivated to bring earlier epistemic research on students and teachers into other contexts of work life. Epistemic approach refers to individuals' beliefs of what knowledge, knowing and learning is (Lonka et al., 2021). Namely reflective-collaborative approach is based on reflection, metacognition, collaboration, and knowledge creation related learning (Lonka, 1997; Lonka et al., 2021; Deng et al., 2014). It is interesting and important to investigate job crafting in terms of employees' approach to learning and knowing because the approach may influence their behavior in job crafting and workplace learning (Lonka & Lindblom-Ylänne, 1996). For example, if employees see themselves as reflective and active professionals who can proactively create in collaboration with others, they may be active in job crafting. Awareness about epistemic approach may boost employees' workplace learning because individuals' beliefs about knowledge and learning are dynamic and evolving constructs (Nussbaum & Bendixen, 2003; Nist & Holschuch, 2005). Employees' learning, motivation, commitment, and well-being may also increase the organizational capital and the ability of organizations to survive in the global and societal changes (Rantanen et al., 2022) as well as enhance organizational goals to be realized through employees' capacities and interests (Billett, 2014).

### **Job Crafting as a Workplace Learning Tool**

Job Demands-Resources Theory (Demerouti et al., 2001) provides the framework for resource-based job crafting model, which emphasizes employees' active role in balancing job demands and job resources according to ones' own abilities and preferences (Tims & Bakker, 2010). Balancing means changing job demands, job resources, or both simultaneously. Employees who craft their jobs often gain positive outcomes in dealing with new demands (van Wingerden & Poell, 2017), building a good person-job fit (Kooij et al., 2017; Li et al., 2020), enhancing satisfaction of psychological needs (De Bloom et al., 2020), and increasing well-being, meaningfulness, and good work performance (Tims et al., 2012; Wrześniewski & Dutton, 2001) even in the retirement age (Lichtenthaler & Fischbach, 2016).

Employees may use job crafting in workplace learning through four strategies: (1) increasing structural job resources (e.g., developing one's capabilities); (2) increasing social job resources (e.g., colleagues' support); (3) increasing challenging job demands (e.g., working in new projects), and (4) decreasing hindering job demands

(e.g., minimizing cognitive/emotional demands) (Tims & Bakker, 2010). Job crafting strategies are hierarchically organized to positive energization and future focused approach-oriented job crafting (employees increase their job resources and demands) and to negative energization or away-directed avoidance-oriented job crafting (employees decrease job demands) (Bruning & Campion, 2018; Elliot, 2006; Zhang & Parker, 2019). Approach-oriented job crafting strategies involve active behaviors to enhance personal development (Boehnlein & Baum, 2020), such as developing skills, increasing autonomy (Lazazzara et al., 2020; Tims et al., 2021), asking for feedback and guidance, and gaining responsibilities (Lazazzara et al., 2020; Tims et al., 2012, 2021). Avoidance-oriented job crafting involves less proactive behavior (Zhang & Parker, 2019), instead it often is about reducing work intensity, avoiding non-routine tasks, and withdrawing from collaboration (Lazazzara et al., 2020; Tims et al., 2012). Avoidance-oriented job crafting may result in accumulation of demands and role conflicts (Bakker & Demerouti, 2017), which, in turn, may drain employees' energy and make them less able to reach work-related goals (Salmela-Aro et al., 2009).

These two job crafting orientations may occur also differently, as approach-oriented job crafting may involve costs like increased workload (Harju et al., 2021), and avoidance-oriented job crafting may become necessary to optimize employees' well-being and performance (Nissinen et al., 2022; Demerouti & Peeters, 2018). Either approach- or avoidance-oriented crafting strategies alone are not optimal for work engagement or performance, however, employing both orientations simultaneously is often beneficial (Mäkikangas, 2018; Petrou & Xanthopoulou, 2021; Sepälä et al., 2020; van Wingerden et al., 2017a, b, c), especially in complex jobs (Bai et al., 2021) or during demanding work periods (Petrou & Xanthopoulou, 2021), such as crisis.

Employees may use various combinations of job crafting (Mäkikangas & Schaufeli, 2021), which may depend on the direction they seek to develop their jobs. Some may use mainly avoidance-oriented job crafting (e.g., avoiding energy draining meetings and colleagues, or mentally demanding tasks), whereas others may use both job crafting orientations or mainly approach crafting (e.g., developing skills or learning to use new technological tools) (Mäkikangas, 2018; Mäkikangas & Schaufeli, 2021). Previous person-oriented studies have shown the importance of the simultaneous use of approach- and avoidance-oriented job crafting for employees' work engagement and person-job fit (Mäkikangas, 2018; Mäkikangas & Schaufeli, 2021). However, less is known about the relationship between job crafting and workaholism and between job crafting and employees' epistemic approach.

### **How Work Engagement and Workaholism Relate with Job Crafting**

Work engagement refers to experiences of energy, dedication, and absorption at work (Schaufeli et al., 2002) and is positively associated with job crafting (Rudolph et al., 2017). Engaged employees are an important resource for sustainable productivity and prosperity (Phelps, 2013) and work engagement is seen as an optimal state for both employee and employer (Bakker & Bal, 2010). Workaholism, in

turn, refers to excessive addiction to work, causing burnout and negative outcomes (e.g., physical and mental health problems, decreased work performance) (Gillet et al., 2018; Shimazu et al., 2015). Thus, workaholism is not related to high levels of performance or job satisfaction, and it may end up costing organizations more money through decreased health and increased absence from work (Clark et al., 2016). Engaged employees invest a lot of energy in work because they find it enjoyable and meaningful, while employees who score high in workaholism do so due to obsession, anxiety (Morkevičiūtė et al., 2021), or irrational beliefs about the consequences if they do not reach their goals (Zeijen et al., 2018). Decreasing ones' job demands via job crafting has shown to decrease workaholism, however, merely decreasing job demands is not a successful strategy for increasing work engagement (Nissinen et al., 2022).

Job crafting often predicts work engagement (Knight et al., 2019; Schaufeli et al., 2009; Vogt et al., 2016) as approach-oriented strategies are positively and avoidance-oriented strategies are negatively associated with work engagement (Hakanen et al., 2018; Harju et al., 2021). However, the relationship can be reciprocal (Zeijen et al., 2018) as the intention to act on job crafting and the experience of work engagement predicted actual job crafting, which in turn predicted future work engagement (Tims et al., 2015). Active and diverse use of job crafting strategies is seen as one prerequisite for a stable work engagement (Hakanen et al., 2018) and a sign of a healthy and active employee (Mäkikangas, 2018).

The relationship between workaholism and job crafting often varies, because there is a lack of a unified definition of workaholism (Lee et al., 2021; Morkevičiūtė et al., 2021). Workaholism has been found to be positively associated with approach-oriented job crafting strategies of increasing structural job resources, challenging job demands (Hakanen et al., 2018), and with increasing social job resources (Zeijen et al., 2018). Decreasing hindering job demands on the other hand, has shown to associate negatively with workaholism, which means that it decreases workaholism (Nissinen et al., 2022). Thus, it may depend on job crafting combinations and e.g., occupational factors whether job crafting associates with work engagement or with workaholism.

## **What are Epistemic Approaches and Why May They Matter?**

In this study we have named employees' relatively permanent beliefs about learning, knowledge and the processes of knowing (Hofer, 2016; Muis et al., 2016) as epistemic approach. A reflective-collaborative approach about learning and knowledge was found among university students (Lonka et al., 2021) and later among in-service teachers (Lammassaari et al., 2021, 2022). This particular approach presents knowledge as complex, relativistic, and integrated in nature (Fives et al., 2015; Lammassaari et al., 2021, 2022). It emphasizes metacognition, collaborative knowledge creation, and adaptive way of thinking about learning and knowing (Lammassaari et al., 2021, 2022; Lonka et al., 2008, 2021).

Reflective-collaborative approach positively associates with work engagement (Lammassaari et al., 2022) and may act as a resource buffering epistemic and

developmental demands, such as engaging in complex work with new intelligent tools and with changes in requirements of expertise (Markauskaite & Goodyear, 2017). As engaging and renewing knowledge at work is essential for employees to stay enrolled in working life (Jensen et al., 2012), the present study focuses on exploring the relationship between job crafting profiles and particularly reflective-collaborative approach to learning.

Epistemic approach is related to ones' actions (Lonka & Lindblom-Ylänne, 1996), and may direct the capacity and willingness to participate learning and job crafting in workplace (Markauskaite & Goodyear, 2017). For example, employees whose epistemic approach helps them to see themselves as active professionals, who can proactively create new ideas in collaboration with others, may foster job crafting and workplace learning. Job crafting strategies of increasing structural job resources and challenging job demands reflect proactive knowledge creation processes through which employees increase their capacities (Tims et al., 2012). Increasing social job resources reflects the collaborative aspect by emphasizing interaction, whereas decreasing hindering job demands e.g., reducing non-routine tasks (Tims et al., 2012) may reflect more fixed epistemic approach (Lammassaari et al., 2022). More fixed epistemic approach consisting of beliefs that knowledge is something certain, simple, and fixed or given by authorities (knowledge-transmission approach; Lammassaari et al., 2022), may outsource workplace learning and result in passive job crafting.

## Research Questions

Job crafting is a multifaced research topic. By using the Resource-based job crafting model grounded on the JD-R theory, this study investigates latent job crafting profiles and their associations with well-being (work engagement), ill-being (workaholism), and learning (reflective-collaborative approach), (Clark et al., 2016; Lonka et al., 2021; Lammassaari et al., 2022; Robinson, 1999; Schaufeli et al., 2002, 2006). The following research questions are examined:

*RQ1: What kind of job crafting profiles can be identified in a sample of public sector employees?*

Referring to the previous person-oriented research on job crafting, we expected to find two to four profiles representing either active, passive or average job crafting. We also expected to find profiles that would resemble approach-oriented job crafting strategies, avoidance-oriented job crafting strategies, and mixed job crafting strategies (Mäkikangas, 2018; Mäkikangas & Schaufeli, 2021). Based on previous research, we did not expect approach- and avoidance-oriented job crafting strategies to be mutually exclusive in job crafting profiles (Mäkikangas, 2018; Mäkikangas & Schaufeli, 2021).

*RQ2: Do job crafting profiles differ regarding work engagement and workaholism?*

We expected that work engagement would be high among employees who report more approach-oriented job crafting strategies, and low among employees who report more avoidance-oriented job crafting strategies (Mäkikangas, 2018). Further, we expected workaholism to be higher in approach-oriented job crafting profiles, and lower in avoidance-oriented job crafting profiles (van Beek et al., 2011; Gillet et al., 2022).

*RQ3: Do job crafting profiles differ regarding reflective-collaborative approach?*

Work related goals and tasks vary among public sector employees and different jobs may have different meanings for knowledge and knowledge practices (Buehl & Fives, 2016). Moreover, some employees may focus on reflecting their own learning, some may focus on creating knowledge collaboratively, while others may prefer direct knowledge from the supervisor (Lonka et al., 2008; Ketonen et al., 2014). We expected that reflective-collaborative approach towards learning and knowledge would be related to approach-oriented job crafting strategies (Lammasaari et al., 2021).

## Material and Methods

### Participants

The participants were 201 employees from three public organizations in Finland, both governmental and municipal. Participants came from a wide variety of professional backgrounds and included, e.g., teachers, educational experts, architects, parking supervisors, ICT-experts, administrative and customer service personnel. The largest age distribution of the participants was 45–54 years (27%), 55–64 years (17%), 35–44 years (11%), 24–34 years (7%), and 1% were over 64 years old (missing data for age 37%). The total sample consisted of more female (40%) than male (20%), missing value in gender being 40%. The overall mean work experience in the current job was 12 years.

### Measures

Job crafting was measured using a 19-item questionnaire based on a previous Job Crafting Scale (Tims et al., 2012, see altered scales also in Petrou et al., 2017, van Wingerden et al., 2017b, and Mäkikangas, 2018). The participants answered the questions using a six-point Likert scale (1 = totally disagree, 6 = totally agree). The questions concerned increasing structural job resources (4 items), increasing social job resources (4 items), increasing challenging job demands (5 items), and decreasing hindering job demands (6 items). Two original questions of increasing structural job resources were combined, namely, “I try to develop my capabilities” and “I try to develop myself professionally,” into one item: “I try to develop my professional capabilities and my work.” Cronbach’s alpha was 0.80. Increasing social job resources was measured with four items and we omitted the original item “I look to my supervisor for inspiration” from this dimension. Cronbach’s alpha was 0.65.

Increasing challenging job demands, had five original items and the Cronbach's alpha was 0.78. The decreasing hindering job demands dimension was measured with six original items and Cronbach's alpha was 0.67.

Work engagement was measured with the UWES-9 concerning vigor, dedication, and feelings of absorption at work (9 items) (Hakanen, 2009; Schaufeli et al., 2006). The participants answered the questions using a seven-point Likert scale (1 = never, 7 = every day). Cronbach's alpha was 0.93.

Workaholism was measured with four items using the Work Addiction Risk questionnaire (Robinson, 1999) of excessive work and sense of duty. The participants answered the questions using a seven-point Likert scale (1 = never, 7 = every day). Cronbach's alpha was 0.82. Table A1 shows instrumental examples of all questionnaires.

Reflective-collaborative approach was measured by using six items from original MED NORD questionnaire (Lonka et al., 2008), which were modified from educational context (Ketonen et al., 2014). Metacognition and collaborative knowledge construction scales formed the reflective-collaborative approach (Lammasaari et al., 2021; Lonka et al., 2021). The statements were rated on a six-point Likert scale (McLaughlan & Lodge, 2019; Lonka et al., 2008, 2021), the anchors were 1 = totally disagree, 6 = totally agree. The original questionnaire was modified to fit public sector work context in collaboration with the organization's contact person. During this customizing process, we paid attention to the definitions and words (e.g., "team", "group") that were used in the respective organization, which made the questionnaire more face valid and relevant to the participants. Cronbach's alpha was 0.75.

## Statistical Analysis

Confirmatory factor analysis (CFA) for the data was previously conducted and published (Nissinen et al., 2022) to test the measurement model for the modified four job crafting dimensions originally presented by Tims et al. (2012). Mplus version 8.3 (Muthén & Muthén, 2018) was used for the statistical analyses and CFA results confirmed the four-factor structure of job crafting. By employing person-oriented research, we examined whether employees sharing similar job crafting strategies could be identified as belonging to the same latent profile (Hofmans et al., 2020). The data were analyzed using latent profile analysis (LPA; Muthén & Muthén, 2018), assuming that homogeneous profiles can be identified in the data. The estimation was performed step-by-step, starting from the one-profile solution to estimate parameters for 1 - 5-class solutions. All the analyses were performed using the Mplus statistical package (Version 8; Muthén & Muthén, 2018). The estimation method was maximum likelihood with robust standard errors (MLR). The LPAs were performed for different latent pattern solutions using mean values, and the result fit indices were compared. Six criteria were used to decide the final number of classes: (1) the Bayesian information criterion (BIC), (2) the Adjusted Bayesian Information Criterion (ABIC), (3) the Akaike information criterion (AIC), (4) the Vuong-Lo-Mendell-Rubin (VLMR) test and Lo-Mendell-Rubin test (LMRT), (5) entropy value, and (6) the clarity and interpretation of the profiles.

Further, it was examined whether and how job crafting profiles differed in terms of work engagement, workaholism, and reflective-collaborative approach. To test these differences, we used the auxiliary measurement-error-weighted-method (BCH) evaluating the mean scores across profiles for continuous auxiliary variables by using a Wald Chi-Square Test (Asparouhov & Muthén, 2021).

## Results

Table 1 shows Pearson correlations, Mean values and Standard Deviations as descriptive statistics at the variable level. Job crafting strategies and their relations with the other variables are viewed more closely from the person-oriented perspective through the differences between the profiles.

### Profile Analysis

The goodness-of-fit indices for the models with different numbers of latent profiles are presented in Table 2. The fit indices Bayesian Information Criterion (BIC), Adjusted Bayesian Information Criterion (ABIC), and Akaike's Information Criterion (AIC) are supposed to be as small as possible. As can be seen they all reached lowest point for the three profile solution. In contrast, Entropy index is expected to be close to 1.0, or at least 0.80 (Ferguson et al., 2020), but it is still considered acceptable when larger than 0.70 (Celeux & Soromenho, 1996). The highest Entropy value was found for a model with five profiles (Entropy = 0.803) and after that in four profile solution but the model significance was far from acceptable in these solutions. *p*-values of Vuong–Lo–Mendell–Rubin likelihood ratio test (VLMRT) and Lo–Mendell–Rubin test (LMRT) were used to investigate how a model significantly fits the data (Ferguson et al., 2020). The *p*-values supported two profile solution, which was contrary to BIC, ABIC, AIC, and Entropy values. Two profile solution showed extremes of the data, and in addition to these statistical measures, the interpretability of the profiles also needed to be considered when deciding the profile model (Wang & Wang, 2012). Because most of the indices supported three profile solution, a decision in favor of three profiles was made.

**Table 1** Descriptive statistics by Pearson correlation

Variable	1.	2.	3.	4.	5.	6.	<i>M</i>	<i>SD</i>
1. Increasing structural job resources							4.3	.87
2. Increasing social job resources	.319 <sup>b</sup>						3.3	.81
3. Increasing challenging job demands	.619 <sup>b</sup>	.327 <sup>b</sup>					3.9	.94
4. Decreasing hindering job demands	-.154 <sup>a</sup>	.016	-.203 <sup>b</sup>				2.8	.76
5. Work engagement	.499 <sup>b</sup>	.230 <sup>b</sup>	.405 <sup>b</sup>	-.200 <sup>a</sup>			5.8	1.1
6. Workaholism	.184 <sup>a</sup>	-.002	.282 <sup>b</sup>	-.240 <sup>b</sup>	.208 <sup>b</sup>		4.6	1.5
7. Reflective-Collaborative approach	.316 <sup>b</sup>	.181 <sup>a</sup>	.335 <sup>b</sup>	-.038	.182 <sup>a</sup>	.198 <sup>b</sup>	5.1	.54

<sup>a</sup>Correlation is significant at 0.05 level

<sup>b</sup>Correlation is significant at 0.01 level

**Table 2** Fit indices for the compared latent pattern models

Model	BIC	ABIC	AIC	Entropy	<i>p</i> VLMR	<i>p</i> LMRT	Difference in the number of parameters	Group sizes
One pattern	2044.976	2019.631	2018.550	-	-	-	-	201
Two patterns	1970.305	1929.119	1927.362	0.705	0.0001	0.0001	5	70,131
Three patterns	1951.412	1894.385	1891.952	0.763	0.0578	0.0623	5	50,115,36
Four Patterns	1967.644	1894.776	1891.668	0.775	0.3935	0.4062	5	111,7,50,33
Five Patterns	1986.206	1897.497	1893.713	0.803	0.7519	0.7586	5	2,54,107,31,7

*BIC* Bayes Information Criteria, *ABIC* Adjusted Bayes Information Criteria, *AIC* Akaike Information Criteria, *pVLMR* Vuon-LO-Mendell-Rubin, *pLMRT* Lo-Mendell-Rubin

The first research question investigated public sector employees' job crafting profiles. Table 3 and Fig. 1 shows that all three profiles consisted of all four job crafting strategies, and the most used job crafting strategy in all profiles was increasing structural job resources. The first profile clearly had low values in all approach-oriented strategies and the highest value in decreasing hindering job demands. The profile was named *passive crafters* (25%). The second profile was the largest and consisted of employees who frequently used all job crafting strategies on average level. It was named *average crafters* (57%). In the third profile, employees reached the highest values in all approach-oriented job crafting and the lowest value in decreasing their hindering job demands. They were named *active crafters* (18%).

### Job Crafting Profiles, Work Engagement and Workaholism

The second research question was about how job crafting profiles differ in terms of work engagement and workaholism. Profiles differed between these well-being and ill-being factors. BCH analysis revealed significant differences between all job crafting profiles in work engagement. Table 4 shows that active crafters showed the

**Table 3** Profile Mean values in job crafting

Profile	Passive crafters (25%)			Average crafters (57%)			Active crafters (18%)			Overall <i>M</i>
	<i>N</i>	<i>M</i>	<i>SE</i>	<i>N</i>	<i>M</i>	<i>SE</i>	<i>N</i>	<i>M</i>	<i>SE</i>	
Increasing structural job resources	50	3.2	.11	115	4.4	.07	36	5.2	.12	4.3
Increasing social job resources	50	2.8	.10	115	3.2	.08	36	3.9	.20	3.3
Increasing challenging job demands	50	2.8	.10	115	3.8	.09	36	5.1	.12	3.9
Decreasing hindering job demands	50	3.1	.10	115	2.8	.08	36	2.6	.17	2.8

Six-point frequency scale for job crafting

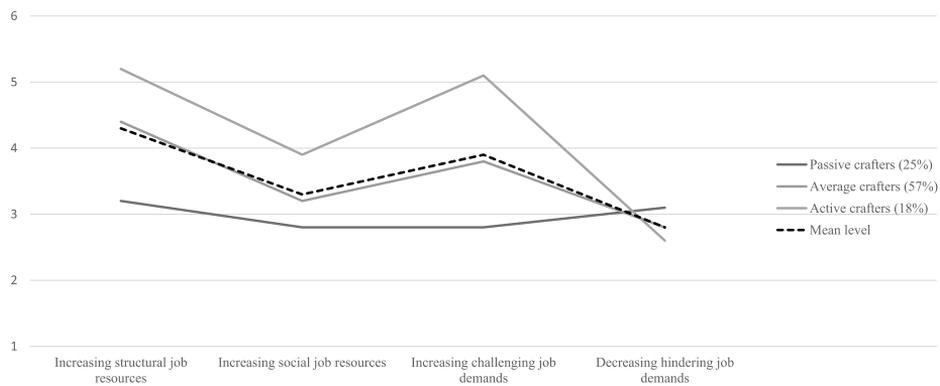


Fig. 1 Job crafting profiles

Table 4 Differences between job crafting profiles

Variable	Passive crafters <i>M</i> (S.E)	Average crafters <i>M</i> (S.E)	Active crafters <i>M</i> (S.E.)	Overall test Wald's $X^2$ / <i>p</i> -value	Profile differences Wald's $X^2$ / <i>p</i> -value
Work engagement	4.8 (.21)	6.0 (.09)	6.4 (.10)	48.256 / .000	1 > 2**, 20.270 / .000 1 > 3**, 45.773 / .000 2 > 3**, 9.644 / .002
Workaholism	4.0 (.25)	4.7 (.16)	5.2 (.24)	12.901 / .002	1 > 2**, 4.637 / .031 1 > 3**, 12.874 / .000 2 > 3, 3.086 / .079
Reflective-collaborative approach	4.8 (.09)	5.2 (.06)	5.4 (.08)	25.595 / .000	1 > 2**, 12.353 / .000 1 > 3**, 25.084 / .000 2 > 3, 3.709 / .054

BCH analysis in Mplus (version 8.9)

\*\*  $p < .001$

\*  $p < .05$

highest work engagement, and passive crafters the lowest. Average crafters scored in the middle of these two profiles. Regarding workaholism, the scores of passive crafters were significantly lower than those of average crafters and active crafters, but there were no significant differences between the average and active crafters.

## Job Crafting Profiles and Reflective-Collaborative Approach

The third research question addressed the differences between job crafting profiles and reflective-collaborative approach to learning. Table 4 shows that passive crafters' reflective-collaborative approach was the lowest, the next lowest scores were among average crafters, and the highest scores were reported by active crafters. BCH analysis revealed significant differences between the passive job crafting profile and the other two profiles, but there were no significant differences between the average and active crafters.

## Discussion

The purpose of this study was to investigate public sector employees' job crafting. The first research question was answered by the LPA results. It revealed passive, average, and active job crafter profiles, which varied considerably. Passive crafters replicate previous research findings (Mäkikangas, 2018; Mäkikangas & Schaufeli, 2021). Findings indicate that they perceived fewer developing opportunities in their jobs (van Wingerden & Poell, 2017) or as JD-R theory proposes, they may not have the energy or motivation required to increase their approach-oriented job crafting (Bakker & Demerouti, 2017; Mäkikangas, 2018). Findings show that passive crafters emphasized minimizing undesirable constraints that interfere with their work and they may have tried to simplify their work to make it easier or smarter (Demerouti & Peeters, 2018).

Study findings imply that average crafters implemented more familiar working ways and were not challenging themselves at work. However, this finding consisting of most participant, confirms that job crafting in practice is not necessarily polarized by approach-oriented and avoidance-oriented job crafting as it is in the theoretical hierarchy (Zhang & Parker, 2019). Findings among active crafters suggest that they may had such a workload and autonomy in their jobs, which motivated them to improve their person-job fit (Tims & Bakker, 2010) and job performance by learning new skills and developing their work and collaboration (Lazazzara et al., 2020). Active crafters may have found hindrance demands as acceptable part of their jobs (Hobfoll, 1989) and concentrated their energy more on learning and professional development (increasing structural job resources), social collaboration (increasing social job resources), and new challenges at work (increasing challenging job demands). This profile finding is consistent with the JD-R theory and implicates that employees who are motivated by their work will use job crafting leading to even higher levels of resources and motivation (Bakker & Demerouti, 2017).

Second, it appeared that employees who reported the highest work engagement and high workaholism, more often belonged to active crafters' than to average or passive crafters' profile. This finding is consistent with earlier research (Mäkikangas, 2018; Mäkikangas & Schaufeli, 2021) and with the JD-R theory suggesting that the combination of challenging job demands and job resources facilitate work

engagement and the best job performance (Bakker et al., 2007). It is possible that this particular strategy combination (learning in the workplace, interacting with others, and challenging oneself) was beneficial in terms of work engagement, which may further protect active crafters from the consequences of high workaholism. Study findings imply that passive nor average level job crafting did not result in the highest work engagement. Employees can experience job demands as simultaneously challenging and hindering (Li et al., 2020). Findings among active crafters may indicate that they experienced job demands as being positively challenging, whereas passive crafters may have experienced job demands as hindering and showed the worst level of work engagement.

Both average and active crafters reported high workaholism which may manifest that they experienced a role overload or role conflict in their occupations (Clark et al., 2016). It may also imply to employees' high workload, tight deadlines, emotional exhaustion, complex tasks or that they were working excessively (Gillet et al., 2022), and particularly active crafters may have been inventing themselves more work. Passive crafters reported low workaholism, which may imply psychological detachment from work as they also scored highest in avoidance-oriented job crafting (Gillet et al., 2022).

Both work engagement and workaholism may relate to the same approach-oriented job crafting strategies (Hakanen et al., 2018). The current study findings suggest that active approach-oriented job crafting resulted in more positive rather than negative outcomes. This suggestion is supported by the JD-R theory, which states that job resources lead to positive outcomes (Schaufeli & Bakker, 2004). Nonetheless, if employees are constantly gaining new resources and challenging demands, and they are not able to detach from some demands, they may end up depleting their energy (Gillet et al., 2022). These profile differences suggest that job crafting strategy combinations and crafting frequency may have an important role regarding employees' well-being.

Third, employees who reported that it is important to understand own thinking about learning and knowledge, to self-assess own abilities at work, and to collaborate and utilize knowledge provided by colleagues typically belong to active or average crafters' profile. They crafted their jobs frequently, particularly by increasing structural job resources and challenging job demands. According to JD-R theory (Bakker & Demerouti, 2017) it is possible that reflective-collaborative approach acted as a personal resource, which made employees more self-efficacious and aware about developing their abilities in work, and further allowed them to perceive more job crafting opportunities (van Wingerden & Poell, 2017).

Employees emphasizing reflective-collaborative approach may typically learn new ways to craft their jobs and be active in metacognitive processes stimulating their personal growth and learning (i.e., professional development and autonomy) (Bakker & Demerouti, 2007). This may further help them to learn how to utilize different kinds of resources, e.g., time-spatial resources such as selecting work locations and working hours (Wessels et al., 2019). These overall study findings point out that reflective-collaborative approach and approach-oriented job crafting

strategies are intertwined and characterized by proactive behavior. Low reflective-collaborative approach to learning on the other hand may reciprocally manifest low work renewal intentions and low collaborative learning (Lammassaari et al., 2022). Current findings imply that employees who show low reflective-collaborative approach may see their work more from the perspective of getting the job done as easily as possible and according to given instructions, instead of initiatively and actively crafting their jobs.

The modest use of social job resources among average crafters was unexpected, because they also reported valuing collaboration with others. It is possible that constraining occupational or contextual conditions (e.g., frequently changing colleagues, organizational culture, working pace) (Lazazzara et al., 2020) made it difficult for average crafters to act according to their epistemic approach and increase their social resources in more extend.

### **Limitations and Suggestions for Future Research**

It should be noted that occupational differences in this study may play a role in job crafting behavior because employees with different jobs and job-related autonomy may utilize job crafting differently and for different reasons (Petrou et al., 2017). The first limitation of this study concerns generalizability, as the study was conducted in Finnish public sector organizations. It is not possible to generalize our findings, even though we made intentional efforts to prevent sample bias by sampling multi-professional organizations and managed to strengthen our study with data from a variety of professions. Second, we used self-report measurements. It is possible that participants perceived job crafting, work engagement, workaholism, and reflective-collaborative approach differently or responded in a socially desirable way, reflecting common method bias (Conway & Lance, 2010; Podsakoff et al., 2012). Third, the data were cross-sectional, which prevents us from drawing conclusions regarding causality or whether the profiles remain unchanged or estimating the effect of job crafting over time (Frederick & VanderWeele, 2020). Fourth, the slightly lower alpha values in two factors (increasing social job resources and decreasing hindering job demands) may have occurred because the scales consisted of extant items which measured social job crafting and work avoidance in many ways.

In workplace learning and job crafting theory development, it would be important in the future to investigate more different occupational groups and job roles in even deeper detail. Future research investigating employees' working tenure in terms of their job crafting and epistemic approach would benefit especially countries of low birth rate (e.g., Finland, South-Korea, Japan, China), as internal innovations in organizations may be one key source of productivity growth. A longitudinal design would allow to investigate profile changes, and whether job crafting profiles are predictors or outcomes of employees' work engagement, workaholism and epistemic approach (Frederick & VanderWeele, 2020). In the future, we would also encourage to develop job crafting scales to better bring out different occupational characteristics e.g., between remote- or hybrid workers and onsite workers.

## Theoretical and Practical Contributions

The present study makes theoretical contributions by extending the knowledge of different job crafting profiles and showing how they differ regarding employees' work engagement, workaholism, and epistemic approach to learning and knowing. We demonstrated that the highest work engagement was related to active approach-oriented job crafting. We also demonstrated that the lowest workaholism was related to profile including the highest avoidance-oriented job crafting. Therefore, we suggest that workplaces enhance active and diverse use of both approach-oriented and avoidance-oriented job crafting.

This study touched on the less investigated aspect of literature concerning the negative side (workaholism) that job crafting may have (Lazazzara et al., 2020). The results showed that high workaholism scores but also the significantly highest work engagement were present when approach-oriented job crafting strategies were highly utilized. Average level job crafting did not avoid workaholism, instead it resulted in high workaholism but lower work engagement than active crafting. This profile difference between average and active crafters may be significant by pointing out the role of proactive job crafting frequency regarding well-being and ill-being.

The present study contributes to the previous job crafting and workplace learning research by investigating and connecting job crafting and epistemic approach about learning and knowing. To our knowledge, this is the first study investigating these factors together. Overall study findings point out that employees' reflective-collaborative approach and approach-oriented job crafting strategies are intertwined and characterized by proactive behavior. Different kinds of workplaces would benefit from focusing on employees' learning approaches and how they may affect to their thinking and behavior at work. Enhancing reflective-collaborative approach might foster workplace learning and collaboration to gain the most benefits on both individual and organizational level. In practice, attending in discussions and activities concerning organizations' goals or required job renewals may develop individuals' epistemic approach because participation is important in workplace learning (Goodyear & Ellis, 2007). If employees share their personal approach about different issues, they become more likely to engage in discussion (Goodyear & Ellis, 2007), which may further develop their epistemic approach to workplace learning.

Extreme work life disruption during COVID-19 forced nearly all people to craft their jobs in unprecedented ways. One example of this is the remote and hybrid working that became the new norm almost overnight (Wang et al., 2021). Professionals in e.g., education and health care sector had to adjust their work with new health security practices and find ways to do their jobs (Demerouti & Bakker, 2022). There were also occupations in which the effect was opposite, and workload was drastically reduced or work totally vanished because of lockdowns. For example, restaurant- and cultural-sectors had to adjust their operating methods and employees crafted their jobs to meet the changed demands and new rules. This worldwide experience may have influenced to employees' epistemic beliefs about their ability to learn and develop their work. It may also have influenced their attitudes towards job crafting.

Lesson learned is that all employees should constantly pay attention to job demands they face and to detect job resources they have or gain. They would benefit from being able to decrease their job demands by buffering them with resources provided by job crafting strategies. Organizational practices could systematically support employees' reflection towards their own thinking about job crafting and epistemic approach by bringing up the discussion and sharing different kinds of volunteer examples from among the personnel. Supporting might also happen e.g., by encouraging employees to participate in organized job crafting induction when facing new demands or resources in work. Although job crafting is a bottom-up method, it is also a leadership matter to encourage and support employees to evolve or even transform their thinking and behavior to better balance their jobs.

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**Authors' Contributions** T.N. conceived the research project and conducted the data collection. T.N. and K.U. analyzed the data. T.N. reported the results, interpreted the findings, and wrote the manuscript. H.L. contributed the study regarding epistemic approach. K.U. and K.L. participated in interpreting the findings as well as revising and editing the manuscript. K.L. oversaw the research.

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**Availability of Data and Materials** The datasets generated and analysed during the current study are not publicly available due the fact that they constitute an excerpt of research in progress but are available from the corresponding author on reasonable request.

## Declarations

**Ethics Approval and Consent to Participate** Ethical review and approval were not required for the study on human participants in accordance with the local legislation and institutional requirements. Participating for the study was voluntary, and the participants provided their written informed consent to participate in this study. The study was conducted according to Finnish Advisory Board on Research Integrity guidelines (Finnish National Board on Research Integrity TENK, 2019).

**Competing Interests** The authors have no competing interests to declare.

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# School principals' job crafting profiles and their differences during the prolonged COVID-19 pandemic

School principals' job crafting profiles

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## Abstract

**Purpose** – The purpose of this study was to explore school principals' job crafting profiles during the prolonged COVID-19 crisis in 2021, and investigate profile differences regarding principals' own perceived servant leadership, stress and work meaningfulness.

**Design/methodology/approach** – Using latent profile analysis (LPA), two job crafting profiles were identified: (1) active crafters (55%) and (2) average crafters (45%). By auxiliary measurement-error-weighted-method (BCH), we examined whether and how job crafting profiles differed in terms of servant leadership, stress and work meaningfulness.

**Findings** – Active crafters reported higher than the overall mean level of approach-oriented job crafting (increasing job resources and demands), whereas average crafters reported an overall mean level of approach-oriented job crafting. Avoidance-oriented job crafting by decreasing hindering job demands did not differentiate the two profiles. Active crafters reported significantly higher servant leadership behavior, stress and work meaningfulness than average crafters.

**Originality/value** – Study findings provide new knowledge and reflect the implications that the unprecedented pandemic had for education. This study contributes to the existing literature within the scholarship of job crafting through empirical research during the prolonged COVID-19 pandemic. For practitioners, these study findings reflect contextual constraints, organizational processes and culture, and leadership in workplaces.

**Keywords** Job crafting, Servant leadership, COVID-19, Stress, Work meaningfulness, Principal

**Paper type** Research paper

## Introduction

In the pre-COVID-19 era, one major challenge among school principals in Finland and Estonia was the development of the learning community and curriculum development (Tirri *et al.*,

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2021). During the worldwide COVID-19 pandemic, the education system was shaken, and principals had to react fast to continuously changing regulations in the unprecedented situation (Reimers, 2022). During 2020 and 2021, schools were constantly challenged by new requirements of health security practices, and education was forced to rethink and change teaching practices from in-person to remote and hybrid models (MoEC and THL, 2020–2021; Wang *et al.*, 2021; Weiner *et al.*, 2021). Health security practices concerned, for example, securing social distancing during school days and lunch breaks, re-organizing lessons, renewing teaching practices, supervising hygiene practices (e.g. using masks and disinfectants) and informing parents about changing regulations (MoEC and THL, 2020–2021). In Finland, principals also had to organize lunch delivery to students who were in quarantine at home, as free school lunch is in the Finnish educational legislation (Ministry for Foreign Affairs and Finnish National Agency for Education, 2019; MoEC and THL, 2020–2021; Basic Education Law, Perusopetuslaki 1998/628 § 31).

During the first COVID-19 year 2020, most Finnish school principals (77%) reported high or altered levels of stress measured by principals' stress profiles concerning the school community's ability to cope during the pandemic (Upadyaya *et al.*, 2021). Principals also reported decreased work engagement compared to the earlier principal barometer in 2019 (Salmela-Aro *et al.*, 2020; Upadyaya *et al.*, 2020). At the same time principals' support and leadership style were the main job resources for teachers to cope during the pandemic (Lavonen and Salmela-Aro, 2022; Pollock, 2020). The role of leadership and principals' renewing their own behavior became essential.

Job crafting behavior is characterized by balancing job demands and job resources (Nissinen *et al.*, 2022) by doing self-initiated changes that employees can make in their jobs (Tims and Bakker, 2010; Wrzesniewski and Dutton, 2001). Some previous studies exist examining job crafting among teachers (Dash and Vohra, 2019; van Wingerden *et al.*, 2017a, b), however, research on school principals' job crafting profiles is still lacking (see exception Toyama *et al.*, 2023). It is possible that job crafting behaviors may vary among school principals; for example, it has been found that some groups of managers (Mäkikangas and Schaufeli, 2021) and rehabilitation center employees (Mäkikangas, 2018) employ overall highly active job crafting strategies, whereas some groups of managers and employees employ varying job crafting strategy combinations. Thus, exploring job crafting strategy combinations among school principals may bring out new knowledge and support principals and educational organizations to maximize the benefits of job crafting in principals' leadership work during crisis (Toyama *et al.*, 2022).

Uncertain situation, like crisis, increase the importance of balancing principals' workload and the emotional burden (Ahtiainen *et al.*, 2022). It is shown that job crafting has helped school principals' adaptation to changes before COVID-19 pandemic and in the beginning of the pandemic (Toyama *et al.*, 2023). However, job crafting profiles among school principals did not significantly change from pre-pandemic (2019) to the early stages of the pandemic (2020) (Toyama *et al.*, 2023).

COVID-19 crisis altered job demands and the importance of job resources in the education sector (Demerouti and Bakker, 2022) and to the authors knowledge no study has investigated school principals' job crafting profiles during prolonged crisis, i.e. the crisis had lasted for over a year. The frequency and pattern of job crafting behavior may change in different phases of the crisis as the increase of unique demands could cause stimuli and incentive that lead to different kind of job crafting (Renkema *et al.*, 2023). Therefore, it is important to study whether constant changes in principals' job demands and the prolonged situation may have depleted principals' resources (Hobfoll, 1989) and affected the ways principals crafted their jobs (Lazazzara *et al.*, 2020; Knight *et al.*, 2021; Renkema *et al.*, 2023).

The context of this study is disruption and change in education. Unpredictable disruptions such as pandemic, war, energy crisis or economic recession, will bring new

demands for people to face also in the future. Therefore, workplaces should be seen as environments for continuous learning (Harteis, 2022). We investigate school principals' behavior, and their leadership role was acknowledged by exploring their own servant leadership, which is an employee empowering leadership style (van Dierendonck, 2011) and shown to associate with job crafting, which further associates with managers' perceptions of work (Yang *et al.*, 2017).

Previous research of school principals during COVID-19 crisis emphasized the importance of adaptivity (Pollock, 2020), proactivity (McLeod and Dulsky, 2021) and the need of learning for all (Ahtiainen *et al.*, 2022). Consequently, the present study examines how school principals implement this kind of workplace learning (Nissinen *et al.*, 2023) by investigating principals' job crafting profiles during a prolonged crisis and explores profile differences regarding servant leadership, stress and work meaningfulness. These study findings contribute to theory and practitioners by reflecting how contextual constraints, organizational processes and culture or leadership style may affect the way we renew work by job crafting.

### *Job crafting*

Job crafting is based on job demands-resources (JD-R) theory (Demerouti *et al.*, 2001), which suggests that all job characteristics are seen as demands or as resources which may influence employee well-being and job performance in work (Bakker and Demerouti, 2007; Demerouti *et al.*, 2001). JD-R theory explains how demands and resources evoke two different psychological processes, which eventually affect individual and organizational outcomes (Schaufeli and Bakker, 2004). The first process is called the Health Impairment Process in which demanding aspects of work may lead to severe mental health problems and, e.g. to longer job absenteeism (Bakker *et al.*, 2007). The second process is called the Motivational Process in which job resources may lead to positive outcomes (Schaufeli and Bakker, 2004) e.g. increase in work engagement and decrease in job boredom (Harju *et al.*, 2018).

Job crafting is conceptualized using a role-based or resource-based perspective. Role-based crafting focuses more on changes in work meaningfulness (Wrześniewski and Dutton, 2001), whereas resource-based crafting focuses on balancing job resources and demands (Tims *et al.*, 2012). Despite the difference in job crafting perspectives, both describe job crafting behavior as increasing or decreasing job boundaries (Zhang and Parker, 2019). Job crafting may occur in low or high autonomy occupations (Wrześniewski and Dutton, 2001; Harju *et al.*, 2018; Kuijpers *et al.*, 2020) and it aims to balance job resources and demands through four different strategies (Tims *et al.*, 2012; Tims and Bakker, 2010): (1) increasing structural job resources (e.g. developing own competencies or job autonomy), (2) increasing social job resources (e.g. asking for feedback or professional collaboration), (3) increasing challenging job demands (e.g. seeking new challenges or interesting projects) and (4) decreasing hindering job demands (e.g. shortening working hours or limiting emotionally draining meetings).

The job crafting hierarchy organizes these four strategies into proactive approach-oriented job crafting (increasing job resources and job demands) and withdrawal or optimizing kind of avoidance-oriented job crafting (decreasing hindering job demands) (Zhang and Parker, 2019). Approach-oriented job crafting is typically associated with an employee's work engagement (de Beer *et al.*, 2016) and task-level job performance (Guan and Frenkel, 2018), whereas avoidance-oriented job crafting is typically seen as work avoidance (Mäkikangas and Schaufeli, 2021; Robledo *et al.*, 2019), or as a coping behavior (Lazazzara *et al.*, 2020), or as an optimizing behavior (Demerouti and Peeters, 2018; Nissinen *et al.*, 2022).

Store managers' job crafting has been shown to positively relate with work performance (Shin *et al.*, 2020) and with managers' psychological capital (Cenciotti *et al.*, 2017). Managers

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have also reported to experience more psychological constraints toward job crafting than other employees (Berg *et al.*, 2010). For example, to be effective, principals should focus on the schools' core processes: curriculum and instruction, communication and good relationships (Daniëls *et al.*, 2019), but during a crisis, the daily management dominated, which have posed challenges to principals' participation in organizational decision-making and further to autonomous job crafting (Wang *et al.*, 2018). Previously, it has been found that managers craft their jobs more frequently than employees (Roczniewska and Puchalska-Kamińska, 2017) and 70% of municipal managers mainly employ approach-oriented job crafting, whereas 30% employ avoidance-oriented job crafting by decreasing hindrance job demands (Mäkikangas and Schaufeli, 2021). A typical manager's job crafting profile has included both avoidance- and approach-oriented job crafting, but the field of educational leadership has a lack of evidence concerning job crafting and leadership during crisis (Striepe and Cunningham, 2021; Toyama *et al.*, 2023).

#### *Servant leadership*

Servant leadership is an approach to power that does not focus on using power to control in an authoritarian way but instead uses power to help others become empowered and self-determined (van Dierendonck, 2011; Greenleaf, 1977). Servant leaders emphasize fostering employee development while also holding them accountable for the outcomes—to encourage trying new approaches in work. Servant leaders have a humble attitude to learn, and they are willing to admit their mistakes; they also express their true values and focus on the larger good of the institution (van Dierendonck and Nuijten, 2011).

In education, servant leadership has mainly been investigated in association with teachers' empowerment (Van der Hoven *et al.*, 2021), teachers' job satisfaction (Cerit, 2009) and with higher education leaders' readiness in the COVID-19 pandemic (Al-Asfour *et al.*, 2022). Servant leadership is explored extensively in other industries, and it has shown to be positively related with overall job crafting (Khan *et al.*, 2021), organizational citizenship behavior (Walumbwa *et al.*, 2010), innovative work behavior (Khan *et al.*, 2021; Panaccio *et al.*, 2015b), employees' well-being (Harju *et al.*, 2018; Kaltiainen and Hakanen, 2022), life satisfaction (Upadyaya *et al.*, 2016), lower levels of job stress (Jaramillo *et al.*, 2009) and leader effectiveness (Zhang *et al.*, 2021).

Servant leadership increases employees' organizational commitment behavior (OCB), which, in turn, may reduce leaders' workload and promote their well-being (Bavik *et al.*, 2017). In addition, research in the hospitality industry showed that servant leadership had significant benefits for internal and external stakeholders via employee job crafting (Bavik *et al.*, 2017). However, associations between servant leadership and avoidance-oriented job crafting were not found (Lichtenthaler and Fischbach, 2018). Instead of exploring employees' experiences about servant leadership, this study fills the research gap and explores leaders' own perceived servant leadership, and its differences in their job crafting profiles.

#### *Work meaningfulness*

Principals' psychological needs, such as need for relatedness, sense of intimacy, autonomy and community spirit (Bakker and Oerlemans, 2019), may have an effect on work meaningfulness by increasing growth- and purpose-oriented focus toward work (Steger *et al.*, 2012) and the amount of attached significance toward work (Rosso *et al.*, 2010). There is no full consensus over the definition of meaningful work (Bailey *et al.*, 2019), but it may be considered a positive psychological state associated with work motivation (Rosso *et al.*, 2010), high job satisfaction, well-being and low risk of job turnover (Bailey *et al.*, 2019; Steger *et al.*, 2012). Indeed, the meaning of work has outcomes for work behavior and individual performance (Wrześniewski and Dutton, 2001; Wrześniewski *et al.*, 2003), experiences of

empowerment, stress and organizational identification (Rosso *et al.*, 2010). Further, employees with low meaningfulness may withdraw themselves from work (Steger *et al.*, 2012) and become bored if workload or pace prevents them from focusing on the things that they perceive as meaningful in their work (Harju and Hakanen, 2016).

Reducing job demands has shown to be detrimental to principals' basic psychological needs (Toyama *et al.*, 2022) but work meaningfulness may be increased by making small changes at work (Wrześniewski and Dutton, 2001). By actively seeking challenging job demands, principals may satisfy psychological needs, for example their intrinsic motivation (Toyama *et al.*, 2022). Earlier research implies that daily job crafting and increasing job resources may be important for individuals' basic psychological needs (Bakker and Oerlemans, 2019) and work meaningfulness grows when multiple relevant enhancing sources are combined (Montani *et al.*, 2020; Rosso *et al.*, 2010). Also, interpersonal relationships at work (Rosso *et al.*, 2010) and feedback from supervisors and coworkers significantly contribute to work meaningfulness (Montani *et al.*, 2020).

### *Aims*

Different job crafting strategies can be used simultaneously (Mäkikangas, 2018). Therefore, the present study applied a person-oriented approach, which allowed to explore what kinds of job crafting combinations, latent homogeneous profiles, principals utilized (Tims *et al.*, 2021). Further, we explored how these profiles differed regarding principals' own perceived servant leadership, stress and work meaningfulness. The specific research questions were:

*RQ1.* What kinds of job crafting profiles can be identified among school principals during the prolonged COVID-19 pandemic crisis?

The present study supplements school principals' job crafting research (Toyama *et al.*, 2023) and is the first to examine job crafting using latent profile analysis (LPA) among school principals during the prolonged pandemic. Earlier person-oriented studies of rehabilitation workers and municipality leaders have revealed different profile solutions between studies by representing different activity levels and different job crafting orientations (Bruning and Campion, 2022; Mäkikangas, 2018; Mäkikangas and Schaufeli, 2021). The prolonged COVID-19 pandemic caused multiple constraints for school principals' work, which may have led principals to engage more in avoidance-oriented job crafting strategies than approach-oriented crafting strategies (Bruning and Campion, 2018). Based on previous literature, we expected to find 2–4 latent profiles, of which at least one would represent active avoidance-oriented job crafting.

*RQ2.* Do principals' job crafting profiles differ regarding their own perceived servant leadership?

Servant leadership characteristics, such as a humble attitude to learn, willingness to admit mistakes (van Dierendonck and Nuijten, 2011), strong psychological resources (Eva *et al.*, 2019) and high cognitive competence (van Dierendonck, 2011) reflect innovative work behavior (Khan *et al.*, 2021; Panaccio *et al.*, 2015b). Therefore, it is plausible to expect that approach-oriented job crafting profile is related to high servant leadership behavior (Lichtenthaler and Fischbach, 2018).

*RQ3.* Do principals' job crafting profiles differ regarding their stress concerning school administration and well-being?

Recent research describes how the COVID-19 pandemic disrupted school order and leadership but at the same time brought along a new normal, which might re-model education (Harris, 2020). As the pandemic continued, it is possible that principals crafted new skills or

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new ways to adapt in their jobs in order to reduce stress (Upadyaya *et al.*, 2021). We expected school principals employing actively all job crafting strategies to report lower levels of stress.

*RQ4.* Do principals' job crafting profiles differ regarding work meaningfulness?

In the year 2021, principals faced heavy work overload as they had more to do than they had time to do it (Upadyaya *et al.*, 2021). In this kind of prolonged and exhausting situation, individuals may question the meaning of work (Harju and Hakanen, 2016). Work meaningfulness may be increased by job crafting (Wrześniewski and Dutton, 2001; Montani *et al.*, 2020) and therefore we expected school principals employing more proactive approach-oriented job crafting strategies to report higher work meaningfulness than principals who utilized more avoidance-oriented job crafting strategies.

## Materials and methods

### *Context and selection of the participants*

In this study, we investigate principals' work in 2021. Data collecting was done during April and May 2021 when schools were mainly back in classroom teaching, but they still had strict regulations and, for example, all the COVID-19 exposed students were traced together with health authorities. The healthcare sector did not have resources for tracing the COVID-19 exposed in Finland, and it became a new task for school principals. The participants were recruited in collaboration with the Finnish School Principals' Association. Participating candidates received an email introduction to the research. The introduction included the main purpose of the study and explained voluntary participation. The study was conducted according to Finnish Advisory Board on Research Integrity guidelines.

### *Participants*

The study is part of longitudinal Principal Barometer, which is conducted annually and partially aligns with the international study of school principals' health and well-being ([principalhealth.org](http://principalhealth.org)). Of the 1,400 Finnish school principals who were contacted, the study participants were 459 respondents in the year 2021 (response rate 33%). Participants were asked by multiple-choice questions what their current job description was and if they worked as a principal on a full-time or part-time basis. Of all the participants, 64% reported to be administrative principals without teaching duties, 14% reported to be principals with teaching duties and 22% did not report their principal status. Of the principals, 47% reported to be women and 33% reported to be men, whereas 20% of the participants did not report their gender. The participants are a representative sample of Finnish principals (Finnish National Agency for Education, 2020a, b).

### *Measurements*

*Job crafting.* We used a job crafting scale based on Tims *et al.* (2012). We utilized this scale to measure the four job crafting strategies by using a scale from 1 (*never*) to 5 (*very often*). We measured increasing structural job resources with five items in the questionnaire, such as "I try to learn new things at work." Cronbach's alpha for this strategy was 0.74. The strategy of increasing social job resources was measured with five items in the questionnaire, such as "I ask others for feedback on my job performance." Cronbach's alpha for this strategy was 0.53. The strategy of increasing challenging job demands had five items in the questionnaire, such as "I offer myself proactively to be part of interesting projects." Cronbach's alpha was 0.72. The strategy of decreasing hindering job demands had six items, such as "I make sure that my job is mentally less intense." Cronbach's alpha was 0.74. Strategies of increasing structural job resources, increasing social job resources and increasing challenging job

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demands formed the approach-oriented job crafting scale. The strategy of decreasing hindrance job demands solely formed the avoidance-oriented job crafting scale. Job crafting scale is part of the longitudinal international study of school principals' health and well-being.

*Servant leadership.* Servant leadership scale was developed from original scale validation research (van Dierendonck and Nuijten, 2011) and developed specifically for the Finnish Principal Barometer. We utilized this scale to measure eight dimensions of servant leadership on a scale from 1 (*totally disagree*) to 5 (*totally agree*). The scale consisted of following dimensions; empowerment, accountability, standing back, humility, authenticity, courage, interpersonal acceptance and stewardship. We measured all dimensions with one item and reverse coded one item "I constantly criticize teachers for the mistakes they have made" according to original scale validation (van Dierendonck and Nuijten, 2011). Cronbach's alpha for this scale was 0.69.

*Administrational COVID-19 stress.* Principals' administrational stress scale was developed specifically for the Finnish Principal Barometer. We measured stress with four questions (adapted from Upadyaya *et al.*, 2021) concerning principals' administrational work, such as making sure that the school is organized according to regulations. Questions were timely and closely related to COVID-19 crisis and we asked how stressed and concerned principals had been in the last three months regarding: (1) "the COVID-19 crisis," (2) "changing instructions regarding the school during the COVID-19 pandemic," (3) "challenges in monitoring compliance with the instructions related to the COVID-19 pandemic," and (4) "implementation of a COVID-19 exit strategy". Questions were answered using 0 (*a minor source of stress*) to 10 (*a significant source of stress*). Cronbach's alpha was 0.86.

*Stress concerning well-being.* The measurement scale of principals' stress concerning well-being was developed specifically for the Finnish Principal Barometer. It measured stress with four questions (adapted from Dicke *et al.*, 2018; Upadyaya *et al.*, 2021) concerning stress regarding students', teachers', parents' and principals' own emotional, social and mental well-being, as student- and parent-related issues have shown to correlate with principals' emotionally demanding stressors (Dicke *et al.*, 2018). Questions were timely related to prolonged COVID-19 crisis and we asked how stressed principals had been about school community's well-being in the last three months regarding: (1) "students' well-being," (2) "teachers' well-being," (3) "parents'/guardians' well-being," and (4) "your own well-being". Questions were answered using 0 (*a minor source of stress*) to 10 (*a significant source of stress*). Cronbach's alpha was 0.78.

*Meaningful work.* Principals' work meaningfulness was measured with three items from COPSOQ II, work organization and job contents (Pejtersen *et al.*, 2010). Copenhagen Psychosocial Questionnaire (COPSOQ) has been used for assessing the psychosocial work environment at workplaces in several studies since year 2000 (Pejtersen *et al.*, 2010). Items concerned meaningfulness that principals reported in their work: (1) "Is your work meaningful?" (2) "Do you feel that your work is important?" and (3) "Do you feel motivated and participated?" Questions were answered using 1 (*to a very small extent*) to 5 (*to a very large extent*). Cronbach's alpha for these items was 0.85, which is higher than in earlier scale validation ( $\alpha$  0.74) (Pejtersen *et al.*, 2010). The scale of work meaningfulness is part of the longitudinal international study of school principals' health and well-being.

*Data analyses.* To be able to identify school principals' job crafting profiles during the prolonged COVID-19 pandemic, we conducted the LPA (Hofmans *et al.*, 2020). In LPA the covariance structure of the job crafting strategies is explained via differences in their mean values between the profiles. LPA is model-based analysis, which means that different models are analyzed in terms of their statistical goodness and theoretical fit, before finally determining the number of profiles (Muthén and Muthén, 2018). Using Mplus version 8 we carried out a series of LPAs using the mean scores of the job crafting scales. We used the Bayesian Information Criterion (BIC), Adjusted Bayesian Information Criterion and Akaike Information Criterion (AIC), according to which the model with the smallest value is

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considered the best model. The estimation method of maximum likelihood ratio test (LMR) and Vuong-Lo-Mendell-Rubin likelihood ratio test (VLMR) were used for comparing the best-fitting model. Furthermore, the classification quality (i.e. entropy value),  $p$ -value and group sizes were used in deciding the final solution for job crafting profiles.

We examined whether and how job crafting profiles differed in terms of servant leadership, stress and work meaningfulness. To test these differences, we used the auxiliary measurement-error-weighted-method (BCH), which evaluates the mean scores across profiles for continuous auxiliary variables by using a Wald chi-square test (Asparouhov and Muthén, 2021).

## Results

### *Descriptive statistics*

Table 1 shows that on variable level overall job crafting was positively related to servant leadership, stress concerning well-being, work meaningfulness and both approach- and avoidance-oriented job crafting. Approach-oriented job crafting was positively related to servant leadership and work meaningfulness. Avoidance-oriented job crafting negatively correlated with servant leadership, work meaningfulness and approach-oriented job crafting.

### *Latent profile analysis*

Exploring principals' job crafting profiles by using LPA showed that Bayesian information criterion (BIC) began to decrease when additional latent classes were in a two-class solution. BIC continued to decrease with multiple class solutions, but the  $p$ -value for LMR (Lo-Mendell-Rubin Test) was no longer acceptable except in a four-class profile solution. Differences in indices between two-class and four-class profile solutions were that the four-class solution included one very small profile (3.5%). A minor profile less than 5% might have decreased the interpretation of the results. Therefore, the two-class solution was chosen as the final latent pattern solution. Table 2 presents the fit indices for the models with different numbers of latent profile patterns.

Regarding the first research question, two job crafting profiles could be identified among school principals (Table 2). Table 3 shows that both job crafting profiles consisted of all job crafting strategies and the order of preference for using different strategies was the same in both profiles. The result which differentiated principals into two job crafting profiles were the values in three approach-oriented job crafting strategies (increasing job resources and job demands) (Zhang and Parker, 2019). Decreasing hindering job demands did not differentiate the two profiles. The first profile was larger (55%), and it was named *active crafters*. The second profile consisted of principals who reported approach-oriented strategies less than active crafters. The profile was named *average crafters* (45%).

### *Job crafting profiles in relation to servant leadership, stress and work meaningfulness*

Regarding the other research questions, Table 4 shows that principals who reported high servant leadership, high stress concerning well-being and high work meaningfulness more often belonged to active crafters than to average crafters. The level of administrative stress was relatively high in both profiles, but there was no significant difference between profiles.

## Discussion

### *Job crafting profiles among principals*

The first research question was about what kind job crafting profiles can be found among school principals during the prolonged COVID-19 pandemic. Two profiles were identified:

Variable	1	2	3	4	5	6	M	S.D.	Scale
1. Servant leadership	-0.077						4.3	0.38	1-5
2. Adm. COVID-19 stress	0.018	0.572**					6.8	2.06	1-10
3. Stress concerning well-being	0.406**	-0.068					6.0	1.91	1-10
4. Work meaningfulness	0.320*	0.068	-0.167**				4.3	0.59	1-5
5. Approach-oriented job crafting	-0.228**	0.040	0.098	0.331**			3.1	0.44	1-5
6. Avoidance-oriented job crafting	0.217**	0.082	0.083	-0.151**	-0.148**		2.0	0.48	1-5
7. Overall job crafting			0.128*	0.223**	0.912**	0.217**	2.8	0.33	1-5

**Note(s):** \*\*Correlation is significant at 0.01 level. \*Correlation is significant at 0.05 level  
**Source(s):** Authors' work

**Table 1.** Descriptive statistics regarding servant leadership, administrative COVID-19 stress, stress concerning well-being, work meaningfulness, and job crafting

Model	Log-Lh	FP	AIC	BIC	ABIC	Entropy	LMR	Group sizes
One pattern	-1,628.405	8	3,272.810	3,305.843	3,280.453			459
Two patterns	-1,528.628	13	3,083.255	3,136.933	3,095.675	0.627	0.000	254,205
Three patterns	-1,491.737	18	3,019.474	3,093.797	3,036.670	0.722	0.187	290,115,54
Four patterns	-1,471.392	23	2,988.785	3,083.753	3,010.758	0.823	0.002	16,234,113,96
Five patterns	-1,461.556	28	2,979.113	3,094.726	3,005.862	0.797	0.284	16,236,109,39,59
Six patterns	-1,451.639	33	2,969.277	3,105.536	3,000.804	0.745	0.062	137,115,97,16,39,55
Seven patterns	-1,444.552	38	2,965.104	3,122.008	3,001.407	0.785	0.702	5,127,135,72,96,8,16

**Table 2.** Fit indices for the compared latent pattern job crafting models

**Note(s):** Log-LH, log-likelihood; FP, Free Parameters; AIC, Akaike Information Criteria; BIC, Bayes Information Criteria; ABIC, Adjusted Bayes Information Criteria; LMR, Lo-Mendell-Rubin  
**Source(s):** Authors' work

Profile	Active crafters (N = 254, 55%)			Average crafters (N = 205, 45%)			Overall M
	N	M	S.E.	N	M	S.E.	
Increasing structural job resources	254	4.2	0.06	205	3.3	0.08	3.8
Increasing social job resources	254	2.7	0.04	205	2.4	0.06	2.6
Increasing challenging job demands	254	3.4	0.08	205	2.6	0.07	3.1
Decreasing hindering job demands	254	1.9	0.04	205	2.1	0.04	2.0

**Table 3.** Means and standard errors of job crafting profiles among school principals (N = 459)

**Note(s):** Scale 1–5 in job crafting  
**Source(s):** Authors' work

Variable	Active crafters M (S.E)	Average crafters M (S.E)	Walds $X^2/p$ -value	Profile differences
Servant leadership	4.615 (0.043)	4.278 (0.036)	29.18/0.000	1 > 2***
Administrational	6.736 (0.128)	6.470 (0.149)	1.43/0.227	1 > 2
COVID-19 stress (1)				
Stress concerning well-being (2)	6.290 (0.144)	5.713 (0.182)	4.96/0.026	1 > 2*
Meaningful work	4.478 (0.042)	4.076 (0.060)	24.75/0.000	1 > 2***

**Note(s):** BCH analysis in MPlus. Scale 1–5 in servant leadership and meaningful work. Scale 1–10 in COVID-19-related stress 1 and 2

\* $p < 0.05$

\*\*\* $p < 0.001$

**Table 4.** Differences between job crafting profiles

**Source(s):** Authors' work

active crafters (55%) and average crafters (45%). The findings showing a large active crafter profile is not consistent with earlier research among managers as they have reported mostly settling with their existing opportunities because of their own inner challenges to apply job

crafting (Berg *et al.*, 2010). Managers have reported facing high tension between job expectations and realities (Berg *et al.*, 2010; Pollock *et al.*, 2015). It is possible that even in crisis, the organizational culture, better boundaries and professional autonomy allow Finnish principals to craft their jobs more often than other managers. Both profiles included four job crafting strategies, namely increasing structural job resources, increasing social job resources, increasing challenging job demands and decreasing hindering job demands. Approach-oriented job crafting strategies were reported more than avoidance-oriented job crafting strategies in both profiles.

Active crafters reported most frequently using increasing structural job resources, then increasing challenging job demands, then increasing social job resources and lastly decreasing hindering job demands. Actively increasing structural job resources is in line with variable-oriented research among principals (Toyama *et al.*, 2022). We may reflect on these findings through the conservation of resources (COR) theory (Hobfoll, 1989), which suggests that individuals try to maintain and grow resources that are important or valuable to them. According to COR theory, we suggest that principals in the active crafter profile were already well resourced due to their earlier efforts; therefore, they were able to invest even more in their resources via job crafting (Hobfoll, 2011). The second-most frequent strategy among active crafters was increasing challenging job demands. This finding was unexpected because demanding circumstances during the COVID-19 pandemic had already depleted principals' resources by increasing their burnout (Lavonen and Salmela-Aro, 2022), and furthermore, COR theory suggests that in high workload individuals typically choose to decrease their job demands instead of increasing their challenging job demands (Hobfoll, 1989).

It may be that active crafters were professionally more experienced and therefore able to optimize their autonomy to increase their challenging job demands (Roczniowska and Puchalska-Kamińska, 2017) and reinterpret COVID-19 job demands as new challenging job demands (Hobfoll, 1989). It is also possible that active crafters had such an approach of learning and adaptive thinking, which enabled their job crafting in workplace (Nissinen *et al.*, 2023). Also, resources from other life domains may have benefitted active crafters (Demerouti and Bakker, 2022), and therefore, it is possible that active crafters had resources of resilience and courage to try new approaches and job crafting, even when they weren't sure whether it would work (McLeod and Dulsky, 2021).

Average crafters reported the most frequently using increasing structural job resources, then second increasing challenging job demands, then third increasing social job resources and lastly decreasing hindering job demands. However, average crafters' low levels in all approach-oriented job crafting strategies indicate that principals in this profile did not craft their work frequently. Instead, they may have used more familiar strategies in managing their work.

A moderate level in increasing structural job resources and a modest level in increasing challenging job demands may reflect that average crafters were not frequently pivoting to their work priorities, time scheduling or managing via job crafting (Pollock, 2020). It may also be that the overall circumstances: demanding crisis conditions, local restrictions and specific school context (e.g. the number of quarantines in school), which all may have affected average crafters by impeding them from increasing their job resources and challenging job demands (Liao *et al.*, 2021). In principals' daily work, these demands may have caused shortages, for example, in job autonomy, time scheduling and in competence developing opportunities. It is possible that principals in the average crafter profile also experienced a lack of psychological resources during prolonged crisis (Eva *et al.*, 2019) and therefore had fewer opportunities to seek and grow their resources (Hobfoll, 2002) via increasing job resources and job demands (Cenciotti *et al.*, 2017).

The principals in both profiles reported relatively modest crafting by increasing their social job resources. This finding is in line with principals reporting challenges in keeping

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contact with members of the school personnel during COVID-19 (Ahtiainen *et al.*, 2022). This finding may also imply to experiences of social isolation or that principals' social resources were mainly harnessed to crisis leadership and to community adaptation during the crisis (Ahtiainen *et al.*, 2022; Upadyaya *et al.*, 2021). Further, it is possible that because of strict social restrictions ("keep the distance"), the majority of principals had no ordinary networking, feedback discussions, or collaboration and therefore had few opportunities for increasing their social job resources.

The least used strategy in both profiles was decreasing hindering job demands. Relatively low avoidance-oriented crafting did not differentiate the two job crafting profiles and this finding may reflect the fact that one major task of school principals is to solve difficult situations in the school community. Instead of hindering their own participation in such situations, school principals serve as facilitators in challenging situations. This finding also suggests that job crafting may exist differently in different occupations. Therefore, different occupational groups would be important to be considered in theory and instrument development.

#### *Job crafting profiles according to servant leadership, stress and work meaningfulness*

The second research question examined whether job crafting profiles differed regarding principals' own perceived servant leadership. Expectedly, active job crafting manifested high servant leadership. These findings suggest that active crafters manifested strong psychological maturity (Eva *et al.*, 2019) and high cognitive complexity (van Dierendonck, 2011). They probably had energy to craft their jobs, because servant leaders' perspective-taking competence (understanding other peoples' preferences, values, or needs) is replenishing and restorative for leaders themselves (Liao *et al.*, 2021). This finding is consistent with earlier research among employees and contributes to the research field by revealing similar associations among Finnish school principals (Bavik *et al.*, 2017; Khan *et al.*, 2021; Yang *et al.*, 2017). Another possible explanation is that principals were concerned about multiple stakeholders' well-being and ability to cope (McLeod and Dulskey, 2021; Upadyaya *et al.*, 2021) and prevailing crisis conditions together with active crafters' professional characteristics may have matched with servant leaderships' core of prioritizing others' well-being and growth (van Dierendonck, 2011). High servant leadership may also reflect on active crafters' strong commitment to dealing with occurring demands (Kool and van Dierendonck, 2012) and servant leaders' effectiveness in terms of a crisis (van Dierendonck *et al.*, 2014). Active crafters reporting increased challenging job demands is also in line with servant leaders engaging with challenging tasks (van Dierendonck, 2011).

Average crafters reported significantly lower servant leadership than active crafters, although the level of servant leadership among average crafters was not low. It may be that the low level of increasing social job resources among average crafters reciprocally related with their lower servant leadership behavior, as servant leadership relies on promoting prosocial behavior (Chen *et al.*, 2015), such as persuasion discussion (van Dierendonck, 2011). It is possible that average crafters' working context (i.e. their school communities) did not maintain such feedback culture or social support (Tims *et al.*, 2021), or had suffered from several quarantines and was therefore even more strictly instructed to social distance during the COVID-19 pandemic. This finding is noteworthy for the future, because social support from the school community, along with daily resilience, has shown to be beneficial in protecting principals against high stress (Upadyaya *et al.*, 2021). Even though crisis in the future may demand social distancing, there should be alternative practices and tools for daily social interaction.

Although servant leadership replenishes principals, there may be a risk of increasing depletion (Liao *et al.*, 2021) if leaders face too many conflicts or role overload (Xu *et al.*, 2020).

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For instance, school principals serve multiple stakeholders every day (e.g. students, parents, teachers, administration and the third sector) and often these stakeholders require principals' attention simultaneously (Maxwell and Riley, 2017). This may lead servant leadership-oriented principals to experience role overload if time, energy, physical, or psychological resources are insufficient to meet all the demands from multiple stakeholders (Panaccio *et al.*, 2015a). This may be the situation especially in a prolonged or consecutive crisis that depletes school principals' psychological resources even further.

The third research question addressed job crafting profile differences regarding principals' stress. COVID-19 was the context where stress occurred and therefore it is not possible to disassociate stress results from COVID-19 pandemic. Unexpectedly, active crafters reported higher COVID-19 related administrative stress and stress concerning well-being than average crafters, although only stress concerning well-being significantly differed between profiles. Average crafters' lower stress may manifest their modest job crafting in increasing structural job resources and challenging job demands and implies that they were not overpressuring themselves in work (Clark *et al.*, 2016), whereas active crafters' high stress may manifest as working excessively (Gillet *et al.*, 2022).

It is possible that an increase in stress concerning well-being reflected active crafters' strong concern about the school community's well-being (McLeod and Dulsky, 2021; Upadaya *et al.*, 2021), as they simultaneously utilized active job crafting to maintain their own well-being and perhaps to show an example to teachers. It may also be that active crafters faced more demands than average crafters from other aspects of their life, and it influenced their stressors concerning well-being (Demerouti and Bakker, 2022). The active crafter profile has similarities with earlier findings among Finnish teachers, who were engaged and committed to their work but experienced more exhaustion (Salmela-Aro *et al.*, 2019). The active crafter profile findings are also supported by a recent case study that showed principals in Finland and Estonia not giving up on teachers or students who have difficulties. Instead, principals provide constructive feedback to people in need of it (Tirri *et al.*, 2021).

The fourth research question was about profile differences regarding work meaningfulness. Work meaningfulness among active crafters was significantly higher than among average crafters. It is possible that active crafters providing high servant leadership may have gained themselves a greater sense of purpose during the crisis (Panaccio *et al.*, 2015a). Active crafters reporting also high increasing structural job resources may reflect on their high job autonomy and task significance, which have shown to lead to meaningfulness in work (Rosso *et al.*, 2010). Average crafters experiencing work meaningfulness was significantly lower than among active crafters. This finding may imply that social support (Britt *et al.*, 2021) among average crafters' supervisors, teachers or parents was not reciprocal as they self-reported modest strategy use in increasing their social job resources. Other people valuing or devaluing one's work has an impact on the meaning that employees make of their jobs, roles and selves in the organization (Wrześniewski *et al.*, 2003). We suggest rethinking the importance of feedback culture in workplace and enhance supervisors' feedback in daily interaction, because it has a greater effect on employees' work meaningfulness than feedback given by coworkers (Montani *et al.*, 2020).

#### *Study limitations and future research suggestions*

The present study has limitations that should be considered when generalizing the findings. First, even though the prolonged COVID-19 pandemic decreased school principals' professional autonomy in Finland, they typically have considerably high autonomy in their work, which may limit the generalizability of study findings in other educational or organizational systems. Second, most of the participating principals did not have teaching

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duties (i.e. they were full-time administrative principals). In Finland, only the largest schools' principals do not teach regularly and most schools have a principal who is also teaching alongside managing the school. The amount of teaching depends on the school size (e.g. a principal for a 400-student primary school may teach 9–11 lessons per week). Therefore, the work of full-time principals may differ from the work of principals who have weekly teaching duties. Nevertheless, all principals have undivided responsibility all the time, regardless of their principal status. It is possible that during a heavy workload in the prolonged COVID-19 pandemic the principals with teaching duties did not have time to answer the online survey. Therefore, we acknowledge that the sample may be biased to present the principals' situations in larger schools. Third, it is possible that occasional and unpredictable distance learning periods during data collection 2021 may have biased principals' reporting increasing social job resources. More studies would be needed in the future to examine the extent of increasing social job resources. Fourth, we were not able to investigate the data from the longitudinal perspective, as the sample size for longitudinal data was too small. Therefore, it prevents us from drawing conclusions regarding causality whether the profiles remain unchanged after crisis or if the job crafting behavior produced servant leadership, stress, work meaningful or vice-versa. Fifth, slightly lower alpha values for job crafting strategy of increasing social job resources and servant leadership might have occurred because scale items measured social job crafting and servant leadership from many different perspectives; heterogeneous constructs may have lower alpha. The job crafting strategy of social job resources is reported to be the lowest within job crafting strategies in the validation of the scale (Tims *et al.*, 2012) and also in previous studies (see, e.g. Toyama *et al.*, 2023; Mäkikangas and Schaufeli, 2021). However, these lower values of internal consistency may be seen as a limitation of this study.

Future longitudinal research of job crafting and servant leadership and the intrapersonal effects would draw conclusions about causality and long-term outcomes, as more research is needed about servant leadership affecting the leaders themselves (Panaccio *et al.*, 2015a). To develop leadership practices, it would be important to investigate the support that active job crafters and servant leaders get in their organizations. In the present study they expressed stress concerning well-being, which may imply that those who care may be very concerned and therefore experience stress.

### **Conclusions and implications**

A lesson learned from the COVID-19 crisis in education is the importance of individual and organizational regulatory strategies to manage changing job demands and job resources (Demerouti and Bakker, 2022; Nissinen *et al.*, 2023). This study contributes to scholars and practice by empirical research on how job crafting profiles differ regarding servant leadership, stress and work meaningfulness. This study provides new knowledge about school principals' job crafting profiles during the prolonged crisis, contributes to the existing literature within the scholarship of job crafting and expands the integrative view of various elements of principals' educational leadership (Striepe and Cunningham, 2021). In this study we investigated principals' stress concerning well-being from concern-perspective, whereas earlier studies among school principals have investigated, e.g. parent- and teacher-related stressors more from demands they set for principals (Friedman, 2002; Maxwell and Riley, 2017). These study findings also contribute to wider leadership research in complex organizations as principals represent managers in educational organizations.

The study showed that principals' job crafting profiles differed in terms of how actively different job crafting strategies were used. In practice, principals should learn to pay attention to job demands they face and to detect job resources they have or gain, as they would benefit from being able to decrease their job demands by buffering them with

approach-oriented job crafting strategies. Principals' work is constantly changing and they need job crafting training to actively craft their work and to become lead learners of their personnel. They should be encouraged to implement various job crafting strategies because job characteristics in certain contexts may affect what resource combinations have buffering impacts on work demands and further to stress (Bakker *et al.*, 2007). Job demands will also be less straining when there are more resources available (Demerouti and Bakker, 2022) and work meaningfulness may increase via job crafting (Wrzesniewski and Dutton, 2001).

Educational organizations should allow principals to utilize their autonomy by increasing their structural job resources, e.g. how to run daily school processes, implement curriculum objectives or practices and lead the learning community. Schools are different from each other and principals know what kinds of structures and strategies fit well with each unit. Principals' supervisors can support and increase principals' social resources in the future by creating an atmosphere of constructive feedback, encouraging principals to participate in professional networks, allocating time for principals' professional discussions, sharing difficult issues and mentoring them to pay more attention to increasing their social job resources. Decreasing hindrance job demands may be noted as optimizing strategy to balance job demands and resources (Nissinen *et al.*, 2022), but also as a strategy, which might motivate school principals to begin job crafting.

Principals act as sense-giving leaders during crises (Demerouti and Bakker, 2022) and to minimize their risk of exhaustion and role overload, organizations should support leadership with adequate resources. Organizations should enhance servant leadership through a supportive culture and by developing the perspective-taking competence across the organization. This may enable principals to replenish their self-controlling resources (Liao *et al.*, 2021), predict their readiness to deal with crisis (Al-Asfour *et al.*, 2022) and increase organizational performance by returning on investments (Peterson *et al.*, 2012). We suggest utilizing these study findings when developing educational leadership, the work and competence of principals or developing organizational behavior in other complex systems.

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### Supplementary Material

The supplementary material for this article can be found online.

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