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The relationship between daily job crafting and daily intrinsic motivation among app-workers

The moderating role of the personal need for growth and development opportunities

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Abstract

The far-reaching integration of technology in app-work organisations makes the top-down enrichment of work design challenging and subsequently limits opportunities to intrinsically motivate workers. Therefore, this master's thesis investigated the relationship between daily job crafting (i.e., daily task, daily relational, daily cognitive, and daily time-spatial job crafting) and daily intrinsic motivation through daily job enrichment, using a general questionnaire and four-day diary study (N = 196 days nested within 51 individuals). Additionally, we examined whether app-workers' personal need for growth and development moderated the effect of daily job enrichment on daily intrinsic motivation. We found no statistical proof for the moderating effect. However, multilevel analyses revealed that daily intrinsic motivation is higher among app-workers whose work design was more enriched. Moreover, we concluded that daily task, daily relational and daily cognitive crafting represent bottom-up approaches empowering app-workers to foster intrinsic motivation by self-enriching work design.

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1 Introduction

The impact of technology on work design is, and always has been, immense (Parker, Wall & Cordery, 2001). A prime example is the first industrial revolution, known for the shift from manual manufacturing to mechanised production. This transition was the cornerstone of Taylor's scientific management, which applied job simplification to maximise efficiency and transferred responsibility on how to complete tasks from workers to supervisors (Parker et al., 2001; Warner, 1994). Today, the fourth industrial revolution, known for artificial intelligence and big data applications, profoundly impacts work design (Hirschi, 2018). Moreover, all these innovations gave rise to a new work context known as the 'gig economy' (Duggan, Sherman, Carbery & McDonnel, 2020). In essence, this term can be defined as: "[…] an emerging labour market wherein organisations engage independent workers for short-term contracts (gigs) to create virtual jobs, often by connecting workers to customers via a platform-enabled digital marketplace." (Jabagi, Croteau, Audebrand & Marsan, 2019, p. 192).

According to Duggan and colleagues (2020), there are three distinctive categories within the gig economy. The former is known as capital platform work, involving companies such as Airbnb that developed an online platform to enable people to sell or rent out raw materials or other assets. In the second form, referred to as crowdwork, people can outsource their work assignments to freelancers through an organisation's digital platform. Typical crowdwork platform are Fiverr and Amazon Mechanical Turk. Lastly, the gig economy entails the so-called app-work. In this form, organisations such as Uber Eats or Deliveroo use online platforms to deploy workers on-demand. An essential difference in app-work compared to capital platform work and crowdwork is the appliance of algorithmic management. App-work organisations will typically use a controlling unit of self-learning algorithms for HR processes such as work assignment or performance evaluation (Duggan et al., 2020; Lin, Au, Leung & Peng, 2020). From an economic perspective, the use of algorithmic management offers these organisations vital benefits such as the reduction of labour cost and an increased level of efficiency (Dunn, 2020; Jabagi et al., 2019). However, algorithms will also substitute the position of the human supervisor, subsequently eliminating the traditional face-to-face communication with workers and rationalising processes such as task assignment (Duggan et al., 2020; Lin et al., 2020). This raises several concerns over the top-down enrichment of work design and, therefore, the limited possibility to intrinsically motivate app-workers (Connelly, Fieseler, Černe, Giessner & Wong, 2020).

The primary incentive for most people who engage in app-work is to earn money promptly, which implies a low level of intrinsic motivation (Dunn, 2020; Lin et al., 2020). Job enrichment, referring to the integration or enhancement of the core elements defined in the Job Characteristics Model (i.e., skill variety, task identity, task significance, autonomy, and feedback) into the work design, can trigger workers' intrinsic motivation (Loher, Noe, Moeller & Fitzgerald, 1985). Intrinsically motivated individuals work because of the inherent sense of happiness the job offers and not to achieve a separate objective, such as becoming financially independent (Ryan & Deci, 2000a). Performing the daily tasks becomes a reward in itself and a source of satisfaction. Lawler and Hall (1970) even state that intrinsically motivated workers have the feeling that the fulfilment of higher order needs is contingent on work performance. In other words, workers regard the achievement of good results not only as an organisational objective, but also as a personal ambition. Intrinsic motivation is linked to high work performance quality, job satisfaction, low absenteeism, and low turnover intention (Hackman & Oldham, 1976; Jabagi et al., 2019; Sever & Malbašić, 2019). Thus, it is of the utmost value to the organisation to boost intrinsic motivation.

However, in a business concept as app-work, where organisations typically do not provide adequate HR support, it is relevant to apprehend that workers themselves may also create job

enrichment through a process known as job crafting (Connelly et al., 2020; Niessen, Weseler & Kostova, 2016; Tims & Bakker, 2010). This bottom-up approach entails different methods (e.g., task crafting), which refer to the adjustment made by employees within the boundaries of the job to align the content and structure of the work with personal preferences and competencies (Berg, Dutton & Wrzesniewski, 2008). Over the years, the literature on job crafting has grown considerably. Two of the most important insights are that crafting is a day-to-day process and that fluctuations in this proactive behaviour can significantly affect the way an individual experiences a working day (Petrou, Demerouti, Peeters, Schaufeli & Hetland, 2012; Tims, Bakker & Derks, 2014). The extent to which an individual engages in crafting can depend on the state of mind and events happening during a given working day. Hence, job crafting should not be perceived as a sporadic practise that generates lasting changes in job enrichment and intrinsic motivation. Instead, it is more relevant to investigate the daily fluctuations in this behaviour.

Therefore, this master's thesis examines to what extent daily job crafting (i.e., daily task crafting, daily cognitive crafting, daily relational crafting, and daily time-spatial job crafting) can trigger daily intrinsic motivation of app-workers through their effect on daily job enrichment. The first three crafting forms derive from the original job crafting theory proposed by Wrzesniewski and Dutton (2001). The latter form refers to the alignment of working hours and work locations with personal preferences and is additionally added since Legrand (2019) showed in her master's thesis concerning job crafting in app-work that individuals frequently apply it. Lastly, an essential consideration in the success of daily job enrichment programs is an individual's personal need for growth and development opportunities, as it elucidates the extent to which daily enrichment can trigger daily intrinsic motivation (Oldham, Janson & Purdy, 1975). Therefore, it is examined to what extent the app-workers' personal need for growth and development opportunities has a moderating effect on the relationship between daily job enrichment and daily intrinsic motivation. To carry out this research, we have conducted a general questionnaire and four-day diary study (N = 196 days nested within 51 individuals) among app-workers active in the food-delivery platform economy in Belgium.

The results of this study contribute to the growing need for empirical research into HR-related processes in the gig economy in several ways. First, this study broadens the definition of job crafting by investigating daily time-spatial job crafting. There is relatively little research on this crafting form, especially with regard to quantitative analysis. Second, we provide further evidence that daily fluctuations in crafting behaviour exist, which is not commonly assumed in the existing literature. In addition, the findings can confirm that individuals are able to daily enrich the app-work format on their own initiative and indirectly stimulate daily intrinsic motivation, instead of relying on top-down actions. This reinforces the importance of the concept of daily job crafting in a world of work where technology creates a distance between workers and the organisation, pushing these individuals to be more self-contained (Ashford, Caza & Reid, 2018). Lastly, this study may trigger the start of a new stream of research, which specifically explores how organisations can align top-down HR processes and bottom-up daily crafting behaviour to optimally stimulate daily intrinsic motivation.

2 Literature review

The following literature review commences by defining daily job enrichment and its role in increasing daily intrinsic motivation. This section also clarifies why daily job enrichment is essential in app-work. The following part explains how an individual's need for growth and development opportunities can moderate the relationship between daily job enrichment and daily intrinsic motivation. Additionally, the various forms of daily job crafting are described and how crafting behaviour can enrich app-work. Finally, the hypotheses are visualised in a scheme to depict the relationships between the discussed concepts.

2.1 The relationship between daily job enrichment and daily intrinsic motivation

The study of work design has resulted in a comprehensive literature of theoretical perspectives that help organisations to enrich the content and structure of jobs to intrinsically motivate workers (Loher et al., 1985; Pierce, Jussila & Cummings, 2009). One of the most important contributions to this repertoire is the Job Characteristics Model (hereafter JCM) of Hackman and Oldham (1976), which has been extensively utilised as a foundation to enrich jobs (Loher et al., 1985). The JCM contains five factors: skill variety, task identity, task significance, autonomy, and feedback (Schmid & Auburger, 2019). These are the core elements in a job and help to trigger three psychological states (i.e., meaningfulness, responsibility, and knowledge of work results) that subsequently lead to intrinsic motivation and other favourable work (e.g., performance) and personal (e.g., satisfaction) outcomes (Hackman & Oldham, 1976; Loher et al., 1985). The following paragraphs describe the theoretical idea of the JCM in more detail.

A first psychological state is meaningful work. According to Hackman and Oldham (1976), individuals experience a job as meaningful and therefore worth performing if the execution provides a certain level of skill variety, task identity, and task significance. Skill variety indicates the extent to which a job contains a diverse range of tasks, which means that an employee has to rely on different competencies and talents to carry out the job successfully. To ensure skill variety, organisations should offer challenging jobs (Sever & Malbašić, 2019). This way, the employee gains experience and gets the opportunity to learn. A misconception is that skill variety can only be present in complex jobs since more elementary tasks can also enable workers to make use of different skills (Hackman & Oldham, 1976). For instance, car manufacturers may allow workers to switch to various stages in the assembly process within a single work shift so that they do not have to perform the same actions repeatedly. Task identity denotes the extent to which an individual can perform tasks within the job from start to finish with visible results. Ideally, a worker is in charge of the entire work process. However, if this is not possible due to the work nature, it is essential that workers have sufficient insight into the process to clearly address the added contribution of carrying out the specific task (Sever & Malbašić, 2019). Task significance refers to the impact that the job has on other peoples' lives or work, both in the organisation and in the broader society (Hackman & Oldham, 1976). Although an employee may not regard a job as essential, this person must receive a strong signal that the fulfilment of the tasks contributes to the overall organisational performance (Sever & Malbašić, 2019).

A second psychological state is the feeling of being responsible for work results (Hackman & Oldham, 1976). The job characteristic that leads to this sense of responsibility is autonomy, which refers to the extent to which a function offers a worker freedom and independence for planning tasks and deciding which actions should be taken to carry them out (Hackman & Oldham, 1976;

Sever & Malbašić, 2019). If a job offers sufficient autonomy, a person will associate task outcomes more with own efforts and decisions and less with the instructions of a manager or certain work procedures. In the app-work context, autonomy can also be defined as workers' authority to determine where and when they desire to work, which is thoroughly explained in *2.3.5 Daily time-spatial job* crafting (Duggan et al., 2020; Jabagi et al., 2019; Wessels et al., 2019). Although this interpretation may not directly be associated with Hackman and Oldham's sense of responsibility for job outcomes, it can also be influential for daily job enrichment. Therefore, it is interesting to examine autonomy from this perspective as well.

Finally, knowledge of results is the third psychological state in the JCM (Hackman & Oldham, 1976). For workers, it is vital to have continuous insight into their work results to determine how effectively they execute the job (Hackman & Oldham, 1976; Sever & Malbašić, 2019). Within an organisation, this psychological state is translated into the need for feedback. In line with Hackman and Oldham's conceptualisation, feedback is defined as the level to which workers can determine how effectively they have carried out the work by looking at their own actions and performance. From this perspective, feedback is the result of self-reflection. However, app-workers can also receive insight into their work performance via other channels, for instance, through extensive customer reviews given via the app (Lin et al., 2020; Wood, Graham, Lehdonvirta & Hjorth, 2019). Therefore, it is essential to consider feedback from the work itself and feedback provided by other agents when measuring this sub-concept.

In general, it is assumed that the overall work experience, in combination with the inherent personal need for growth and development opportunities, are determining factors for an individual's baseline job enrichment and intrinsic motivation level (Deci, Koestner & Ryan, 1999; Ryan & Deci,2000b; Sheldon, Ryan & Reis, 1996; van Hooff & van Hooft, 2017). Implicitly, this means that beneficial effects of job enrichment on intrinsic motivation do not immediately disappear when, for instance, the work on a particular day contains less skill variety or autonomy. Nevertheless, the extent to which a job becomes enriched may vary on a daily basis, which means that the intrinsic motivation level may also fluctuate from day to day. As job crafting is a typical daily proactive behaviour, and we investigate how crafting influences intrinsic motivation through job enrichment, it is relevant to examine the three concepts on a daily basis.

Concerning app-work, it is arguable that daily job enrichment is the most vital source to intrinsically motivate individuals on a daily basis (Connelly et al., 2020; Duggan et al., 2020). Due to algorithmic management's fundamental role in app-work organisations, no traditional (human) supervisor or leader inspires workers to achieve organisational goals, which is an alternative way to trigger daily intrinsic motivation (Garg & Rastogi, 2006; Jabagi et al., 2019). In app-work, there almost exclusively exists a transactional relationship in which the algorithm divides tasks, measures results and recognises the app-worker for the tasks carried out (Duggan et al., 2020). Because app-work organisations cannot sufficiently boost workers' daily intrinsic motivation through methods such as leadership influence, the intrinsic motivation potential needs to come from an everyday enriched work design (Connelly et al., 2020).

In conclusion, daily job enrichment refers to integrating the characteristics described in the JCM as good as possible in a job. Existing empirical research has indicated that a well-enriched job intrinsically motivates a worker. Based on this presumption, the following hypothesis can be formulated.

Hypothesis 1: Daily job enrichment is positively related to daily intrinsic motivation for app-workers.

2.2 The moderating role of the personal need for growth and development opportunities

The extent to which daily job enrichment can trigger daily intrinsic motivation is influenced by an individual's need for growth and development opportunities (Hackman et al., 1975). The underlying theory of the JCM declares that workers with a strong need for growth and development will better sense the three psychological conditions and consequently become more intrinsically motivated compared to people with less intense needs (Chalofsky & Krishna, 2009; Hackman & Oldham, 1976). In other words, an enriched work design may not optimally trigger an individual's daily intrinsic motivation due to a limited personal need for growth and development opportunities.

Concerning app-workers, it is interesting to examine to what extent these people have a personal need for growth and development opportunities, as it is commonly believed that they are only engaged in the app-work format to make money quickly and conveniently (Duggan et al., 2020; Lin et al., 2020). Although earning money is an essential extrinsic motivating factor for the vast majority of app-workers, research has shown that quite some of these workers seek more than solely economic gain. For instance, Lin et al. (2020) revealed that app-workers also look for a sense of enjoyment and the acquisition of knowledge. Furthermore, Dunn (2020) has developed a framework that classifies the different types of app-workers to determine their motivations. On the one hand, there are 'searchers' who perform app-work to meet a financial need. These people often see this work format as a temporary solution while looking for a permanent job in the traditional work environment. On the other hand, however, there are 'lifers', who engage in app-work because of the specific design of the work format and the opportunities it offers. The financial compensation remains essential, but these people are unquestionably looking to get more out of their job than solely a wage. Regarding 'searchers' and 'lifers', we may argue that the second group has a more substantial need for growth and development and deliberately decided to become an app-worker, for instance, due to the autonomy or skill variety the job offers. For these people, the daily enrichment of app-work will probably lead to daily intrinsic motivation to a greater extent, compared to 'searchers' who principally focus on earning money.

Based on existing research, it is presumed that the personal need for growth and development opportunities differs strongly between app-workers. Subsequently, the extent to which daily job enrichment can trigger daily intrinsic motivation of these people may also differ. Therefore, we state that:

Hypothesis 2: App-workers' personal need for growth and development moderates the relationship between daily job enrichment and daily intrinsic motivation, making this relationship more intense for app-workers who have a high need compared to app-workers who have a low need.

2.3 Daily job crafting approaches

2.3.1 General description of job crafting

In 2001, Wrzesniewski and Dutton introduced job crafting, a theoretical concept based on the idea that individuals take actions to reshape jobs in such a way that tasks and working conditions better align with personal skills and preferences (Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001). The two organisational psychologists suggest that a job can be deconstructed in tasks and relationships, which are the building blocks that workers can use in order to match the job with personal skills and preferences (Berg et al., 2008). The job crafting concept partly emerged as a

reaction to the belief that motivating or performance-enhancing work design could only derive from a top-down approach, meaning that the organisation is responsible for designing a job's content and structure (Demerouti, 2014; Niessen et al., 2016; Tims & Bakker, 2010). Wrzesniewski and Dutton (2001) argued there is also a (complementary) bottom-up approach that contributes to beneficial personal and work outcomes, i.e., job crafting.

Wrzesniewski and Dutton (2001) describe job crafting in the following terms: “the physical and cognitive changes individuals make in the task or relational boundaries of their work” (pp.179). This definition implies three forms of job crafting, namely task crafting, relational crafting, and cognitive crafting (Wrzesniewski & Dutton, 2001). Job crafters can tailor the content, structure, and relational environment of a job to meet individual needs, which helps to boost work's meaningfulness and to develop a better self-image. This conclusion indicates that crafting has the potential to create enrichment and indirectly enhance intrinsic motivation. The following three subsections describe these crafting forms and argue how they can trigger app-workers' intrinsic motivation through their effect on job enrichment. We repeatedly exemplify this by describing how a daily crafting form may enhance one or more of the five underlying characteristics of job enrichment.

2.3.2 Daily task crafting

Daily task crafting refers to altering the physical task boundaries of a job, which means that an individual can change the number and nature of tasks specified in a function description, as well as the type of tasks (Wrzesniewski & Dutton, 2001). App-workers can utilise daily task crafting in different ways to enrich their work activities, for instance, by enhancing the level of skill variety. It is commonly known that this job characteristic has a limited presence in app-work, mainly because algorithmic management suggests how workers should navigate to execute a task as quickly and efficiently as possible and monitors workers' behaviour through GPS tracking (Duggan et al., 2020). An app-worker can strive to increase skill variety by delivering orders even more quickly and subsequently outperform the pre-calculated efficiency level. This mission creates a more challenging and competitive work environment and requires the individual to make more thoughtful actions and decisions. An app-worker can also execute duties that are not strictly required for the job description to increase the adoption of different competencies and talents. For instance, an app-worker can make the extra effort to bring orders to a customer's door instead of waiting on the pavement for someone to pick them up. Since it can be argued that app-workers can craft the physical task boundaries to enrich the daily work design, the following hypothesis can be formulated.

Hypothesis 3a: Daily task crafting will be positively related to daily intrinsic motivation for app-workers through its effect on daily job enrichment.

2.3.3 Daily relational crafting

The second way of job crafting, daily relational crafting, refers to tailoring the relational boundaries of a job (Wrzesniewski & Dutton, 2001). More specifically, an individual can influence the degree of interaction with others, as well as the quality of this interaction. An important consideration is that the relational boundaries of a worker are not limited to communication with colleagues. It is also possible to craft contacts with other people involved in an organisational context, for instance, customers (Wrzesniewski & Dutton, 2001). Moreover, daily relational crafting can be done in many simple ways. Even a quick chat with colleagues or customers can, among other things, help to build engaging relationships and give workers the feeling that the execution of assignments has a significant impact on others (Berg et al., 2008).

Daily relational crafting can be used to enrich app-work jobs, for instance, by improving the level of feedback workers receive after a delivery. Existing research indicates that the current form of feedback within the app-work format gives little to no trigger for intrinsic motivation (Lee, 2016; Lin et al., 2020). Typically, customers report the quality of the delivered work with a general rating through the app instead of a more detailed report with feedback (Lin et al., 2020; Wood et al., 2019). Therefore, it is not clear to app-workers which work aspects should be improved whenever a rating is not perfect. If app-workers would enhance the interaction with customers and ask to evaluate the delivery quality, these workers would receive a specific indication of their strengths and weaknesses, which can help to execute better work in the future. As this example implies, daily relational crafting may help app-workers to enrich the daily job execution and consequently forms a trigger for daily intrinsic motivation. Therefore, the following hypothesis is formed.

Hypothesis 3b: Daily relational crafting will be positively related to daily intrinsic motivation for app-workers through its effect on daily job enrichment.

2.3.4 Daily cognitive crafting

Daily cognitive crafting refers to the adjustment of the cognitive task boundaries, resulting in an alteration of the individual's perception of a (part of the) job (Wrzesniewski & Dutton, 2001). More specifically, this crafting method helps a worker consider fulfilling the daily tasks within a formal job description as more meaningful, as it allows to shape the worker's perception about the job in such a way that it is in line with the personal goals and values (Geldenhuys, Bakker & Demerouti, 2021). There are numerous ways to craft the cognitive task boundaries of a job, for instance, by contemplating how its execution contributes to society (Berg et al., 2008).

For app-workers, daily cognitive crafting can also lead to job enrichment in several ways. For instance, task identity and task significance can be boosted by changing workers' perception. As mentioned earlier, algorithmic management calculates how a task can be performed as quickly and efficiently as possible, and GPS tracking is used to effectively monitor whether app-workers are trying to achieve this efficiency standard (Duggan et al., 2020). As a result, workers may perceive their daily tasks as standardised and repetitive, making it more challenging to identify the added value in the larger app-work process or assessing the impact of the work on other people's lives (Duggan et al., 2020; Parker & Grote, 2019). App-workers could envision the execution of their job as an independent part of the larger app-work concept. This way, they can have a greater sense of carrying out a process from start to finish, with clearly visible results, which increases the task identity. Moreover, app-workers can perceive the fulfilment of daily tasks as a process that positively impacts the lives of customers rather than a straightforward, simple task assignment. This perception alteration can help to increase task significance.

In conclusion, daily cognitive crafting may allow app-workers to enrich their daily task performance, which subsequently stimulates daily intrinsic motivation. Therefore, the following hypothesis is proposed.

Hypothesis 3c: Daily cognitive crafting will be positively related to daily intrinsic motivation for app-workers through its effect on daily job enrichment.

2.3.5 Daily time-spatial job crafting

With the three job crafting methods of Wrzesniewski and Dutton (2001), it is difficult for individuals to directly impact the time and location facet of the work design. However, formal job descriptions become less and less conceptualised in a nine to five job format, where workers every day drive to the same workplace (Wessels et al., 2019). As with the task and relational job boundaries, Wessels and colleagues (2019) argue that it is equally vital for individuals to be able to influence

the daily working hours, as well as the location of work. Therefore, these researchers developed a concept known as daily time-spatial job crafting, indicating the process in which individuals reflect on their work and private life and subsequently alter working hours and work locations to meet personal preferences better.

Daily time-spatial job crafting can help app-workers to enrich a working day by enhancing the autonomy level. In theory, these individuals possess decision-making power over working hours, accepting job assignments, the geographical area in which they intend to work and the maximum distance they are prepared to cover to fulfil a duty. However, reality shows that these people usually have long working days and often try to accept as many assignments as possible, even if this means that they have to travel a greater distance than initially preferred (Duggan et al., 2020; Jabagi et al., 2019). This is partly because app-work organisations implement nudging strategies whereby workers earn considerably more when accepting task requests at rush hour and are penalised by making less in future allocated assignments when refusing (Choudhary, Shunko, Netessine & Koo, 2020). The compelling feeling of continuing to work calls into question whether app-workers genuinely enjoy the benefits of autonomy. Daily time-spatial job crafting can support app-workers to contemplate the ideal number of working hours, preferred region to work in and the maximum distance that may be covered when accepting an assignment, and subsequently, take the appropriate actions to realise these time and location dimensions. This crafting method helps to limit the influence of nudging strategies and thus better meet the personal preferences of app-workers.

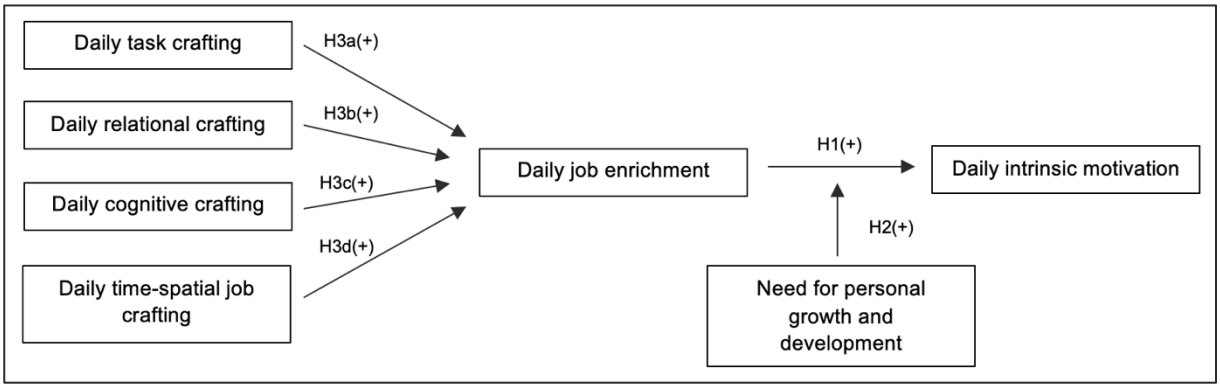
It is arguable that daily time-spatial job crafting is a crafting method capable of daily enriching app-work and therefore stimulating daily intrinsic motivation. Hence, the following hypothesis is outlined.

Hypothesis 3d: Daily time-spatial job crafting will be positively related to daily intrinsic motivation for app-workers through its effect on daily job enrichment.

2.4 Conceptual framework

Figure 1 visually represents the six hypotheses. It is clearly illustrated how various daily job crafting forms can affect daily intrinsic motivation through their impact on daily job enrichment. It is expected that an individual's need for growth and development opportunities can moderate the effect of job enrichment on intrinsic motivation.

Figure 1 Conceptual framework



3 Method

This section outlines how quantitative research has been carried out. The first part describes the participants and the use of a general questionnaire, followed by a four-day diary study. Subsequently, the measuring instruments and data analysis method are explained.

3.1 Participants and procedure

The population for this research comprised all app-workers active in the Belgian food-delivery platform economy (i.e., Deliveroo, Uber Eats, and Takeaway). Since no sampling frame was available for this population, respondents were selected using convenience and snowball sampling (Saunders, Lewis & Thornhill, 2015). More specifically, app-workers were approached in the public area with flyers and through social media network channels such as Facebook and LinkedIn. It was expected that volunteering respondents would also help engage fellow workers to participate. As convenience and snowball sampling lead to a greater risk of selection bias, we cannot state with absolute certainty that results are representative for the entire population (Saunders et al., 2015). However, to enhance the representativeness, it was decisive to examine app-workers who attach sufficient value to the construction of work design. A valuable indicator to use was the extent to which app-work is carried out. The sample could include all people for whom the execution forms an integral part of the weekly time allocation. Whether these individuals perform app-work as a primary or secondary profession or even as one of many sideline activities was of less importance. Those individuals who perform the work only sporadically, for instance when in sudden need of money, were less eligible to participate in this study.

As previously indicated, the hypotheses were tested based on the data collected from a general questionnaire and a four-day diary study. The general questionnaire, carried out at time 1 (i.e., T1), served to measure several demographics of which some were used as control variables (e.g., organisation working for, average number of working hours per week, etc.) and the personal need for growth and development opportunities. We consider a person's need for growth and development as an inherent trait, which will not vary over time (Chalofsky & Krishna, 2009; Hackman & Oldham, 1976). Therefore, it sufficed to measure this concept once. In addition, the respondents were informed about the second part of the study that commenced a week later. Participants were asked to complete four diary questionnaires. However, as participants did not work every day, we sent out diary questionnaires for eight days. They received an invitation to take part every day until four questionnaires had been answered. Hence, at times 2 to 5 (i.e., T2, T3, T4, and T5) the diary study was used to gauge daily job crafting, daily job enrichment, and daily intrinsic motivation. Participants who had appropriately completed all questionnaires received 10 euros, as specified at the beginning of the inquiry.

The criteria to participate in the study were to work at least 12 hours per week and to be 18 years or older. If we strictly complied with these conditions, we ended up with a dataset of 42 respondents. In general, previous reputable diary research that focused on between-person analysis sampled at minimum 100 respondents, which is significantly more than the number we have reached (Baethge, Junker & Rigotti, 2020; J. Hetland, H. Hetland, Bakker & Demerouti, 2018). Considering that there were no correlations between the average weekly working hours and daily job enrichment or daily intrinsic motivation, the multilevel analysis revealed that the average weekly working hours had no significant impact, and the fact we wanted to work with as much valuable data as possible, we have used the complete (cleaned) dataset consisting of 51 respondents who completed in total 196 days. All these app-workers filled in at least the general questionnaire and two of the four diary studies, as these answers provided adequate input to

verify the hypotheses. 49 Respondents further completed the third diary study, and 45 the fourth. Among the 51 respondents, 15 work for Deliveroo (29%), 19 for Takeaway (37%), 9 for Uber Eats (18%), 7 for both Deliveroo and Uber Eats (14%), and 1 for both Takeaway and Uber Eats. Furthermore, respondents were on average 26 years old (SD = 6.46), had 21 months of experience as an app-worker (SD = 17.33), and worked just over 16 hours a week (SD = 7.32). Lastly, 43 of the 51 respondents (84%) were male, and 8 respondents (16%) were female.

3.2 Measuring instruments

The following sub-sections describe which measuring instrument(s) were appropriate for which variable. Considering the heterogeneity of the population, participants could choose between a Dutch or English questionnaire. 37 participants were Dutch-speaking, and 14 participants were English-speaking. We made the Dutch surveys by using validated translations of the original scales. If not available, the items have been translated so that the underlying meaning of each item did not change. Appendix 1 comprises the English items used in this study. All variables were surveyed using a 7-point Likert scale ranging from 1 ("Totally disagree") to 7 ("Totally agree"). To shorten the survey duration and prevent drop-out, the original scales were all shortened (Bakker, Du & Derks, 2019). For this purpose, we principally used validated shortened versions of the scales. If these did not exist, the scales have been compressed using the items with the highest factor loadings. In addition, the scales in the diary study were rewritten in such a way that all items gauged the respondents' daily behaviours rather than in general. More specifically, this means that each question in the daily survey started with a statement of the type "Today during work, ..." or a comparable one.

For each measurement instrument, the Cronbach's alpha (i.e., α) is reported. This measure evaluates the internal reliability of a scale and hence indicates how well the different items fit together (Bonett & Wright, 2015). A Cronbach's alpha of at least .60 is considered reliable to use (Ursachi, Horodnic & Zait, 2015). For the variables surveyed in the general questionnaire, there is one Cronbach's alpha. For the diary variables, we report average, lowest and highest Cronbach's alpha to give an indication of the internal reliability.

3.2.1 General questionnaire

The *personal need for growth and development opportunities* was assessed by adopting a shortened version of the 'Individual Need Strength' scale designed by Hackman and Lawler (1971). In total, we have included six items, among which "I would like to have opportunities to learn new things from my work". The scale had a Cronbach's alpha of .86.

3.2.2 Diary study

Daily task crafting, daily cognitive crafting, and daily relational crafting was measured using a shortened version of a job crafting questionnaire developed by Bindl and colleagues (2019). The first four items assessed daily task crafting (α = .75 - .83; M = .79). An example item was: "Today during work, I actively took on more tasks". Daily relational crafting (α = .84 - .96; M = .90) was measured with the following four items, including "Today during work, I actively tried to meet new people (e.g., other riders, customers, …)". The remaining four items, among which "Today during work, I thought about how my job contributed to the organization's goals", gauged daily cognitive crafting (α = .73 - .87; M = .79).

Daily time-spatial job crafting was assessed using a four-item scale developed by Verelst, De Cooman, Verbruggen, van Laar, and Meeussen (2019) that was based on the theoretical paper

of Wessels et al. (2019). The scale aimed to assess crafting actions that are performed to match the working hours and work location with private demands and vice versa. An example item was: "Today, I chose the moments when I worked so that I could better meet the demands of my private life". The Cronbach's alphas of this scale had a mean of .75 and ranged from .72 to .79.

To measure *daily job enrichment*, we used a shortened version of the 'Revised Job Diagnostic Survey', developed by Idaszak and Drasgow (1987). In fact, this questionnaire is a slightly modified version of the original 'Job Diagnostic Survey' by Hackman and Oldham (1974), with the principal difference that the reversed items are omitted. Each job characteristic was surveyed with two items and these data were subsequently aggregated to one variable representing daily job enrichment. To check the internal reliability of the subscales, we use the Spearman-Brown split-half instead of the Cronbach's alpha. The two items which measured skill variety, including "Today, my work required me to use a number of complex or high-level skills", had split-half correlations differing from .88 to .90 and averaging around .89. The two items which assessed task identity, including "Today, my work was arranged so that I could do an entire piece of work from beginning to end", had split-half correlations ranging from .67 up to .88 with a mean of .80. Both statements used to evaluate task significance had split-half correlations averaging around .74 and varying from .66 to .83 and included "Today, I could affect a lot of other people with my work". The two items that questioned autonomy only had split-half correlations with a mean of .53 and these were varying from .47 to .54. Therefore, we decided to not include these items in the calculation of daily job enrichment. Lastly, the scale for feedback had split-half correlations with a mean of .69 and ranging between .80 and .84. One of the items was: "Today, just doing the work required by my job provided many chances for me to figure out how well I was doing". The Cronbach's alphas of daily job enrichment varied from .78 to .83 with a mean of .81.

Daily intrinsic motivation was surveyed using a shortened version of Vallerand's 'Intrinsic Motivation Scale' (Van Yperen & Hagedoorn, 2003; Vallerand, 1997). The scale comprises three forms of intrinsic motivation, of which the results form one indicator for intrinsic motivation (Van Yperen & Hagedoorn, 2003). The first two items assessed intrinsic motivation 'to know' (e.g., "Today, I liked my job because I felt pleasure of doing new things"). The next two items examined intrinsic motivation 'to achieve things' (e.g., "Today, I liked my job because I felt pleasure while improving some of my weak points"). The last two items measured the 'experience of stimulation' (e.g., "Today, I liked my job because I felt excitement when I was really involved in my job."). The Cronbach's alphas of this scale had a mean of .90 and ranged from .88 up to .91.

3.2.3 Control variables

In this study, gender, age, tenure, the average number of working hours per week and the organisation working for were included as control variables. Age and gender were primarily measured because Bipp (2010) has shown that these demographic factors affect the individual's preference for work characteristics. Moreover, Bipp and Demerouti (2015) have shown that older workers craft their jobs less. Therefore, it was interesting to investigate whether age and gender had an impact on the extent to which a job was enriched and provided intrinsic motivation. Tenure was surveyed because preceding inquiries reveal that individuals who carried out the same job for a long time can regard the work as boring and therefore become less intrinsically motivated (Ng & Feldman, 2013). The weekly average of worked hours was surveyed as we assume that this number can influence the extent to which the design of app-work provides intrinsic motivation. This assumption is based on research of Doucette and Bradford (2019), which revealed that people's motives to show effort in their main and secondary professions could differ considerably. Lastly, the organisation an app-worker is operating for was questioned, as we assume that the organisation’s way of functioning may have an influence on the craft behaviour of app-workers.

3.3 Data analysis

The data analysis was conducted using the Stata software 16 (64 bit). The dataset had a hierarchical structure with days (N = 196) nested within persons (N = 51). Every respondent who at least completed the general questionnaire and two of the four diary studies had been included in the analysis as these answers provided adequate input to verify the hypotheses. First, we analysed the mean and standard error of all incorporated variables, as well as the Pearson's correlations. These coefficients were used to study the extent to which there exists a relationship between two variables (Saunders et al., 2015). We consider the connection between two variables to be strong when the absolute value of the correlation coefficient is higher than .50 (Laerd Statistics, 2018). A coefficient between .30 and .50 implies a moderate correlation, and a correlation between .10 and .30 indicates a small correlation. A coefficient of 0 indicates that variables are entirely independent of each other. The sign of the coefficient specifies whether there is a positive or negative relationship (Saunders et al., 2015).

Thereafter, we carried out a multilevel regression analysis, which was the appropriate technique since it considers the clustering of the data (Clarke, 2008). A single regression model does not do this, which can lead to biased outcomes. However, to statistically verify whether multilevel regression should have been performed, the intraclass correlation coefficient (ICC) of all level 1 variables (i.e., daily job crafting variables, daily job enrichment, and daily intrinsic motivation) was estimated (Toland & De Ayala; 2005). This measure was used to determine how much variance is explained at the between- and within-person level (Robayo-Tamayo et al., 2020). The rule of thumb asserts that multilevel regression should be conducted when level 1 variables exhibit more than 5 % within-person variation (1-ICC). As Table 1 exhibits, this was the case for all diary variables. To avoid multicollinearity, we centered both level 1 and level 2 variables (i.e., weekly work hours, tenure, age, and personal need for growth and development around the grand-mean. This way, we aggregated the within-person data to the between-person level, which is the recommended method to use, as we were interested in between-person differences (Enders & Tofighi, 2007; Ohly et al., 2010; Rudolph, Katz, Lavigne & Zacher, 2017). In general, job crafting analysis is mostly investigated at the between-person level (Rudolph et al., 2017).

The data were screened on several classical statistical assumptions. First, we examined whether the dataset contained any extreme or potentially erroneous observations, using a stem-and-leaf plot of the standardised residuals and an overall analysis of each variable's minimum, maximum and average values. Based on this control, we concluded that the dataset was free of outliers or faulty observations. Next, we performed a Shapiro-Wilk W test to determine whether the residuals were normally distributed. As the null hypothesis could not be rejected ($W(196) = .98679$, $p = .06$), we concluded normal distribution. In addition, we generated a scatterplot to check whether the residuals had a constant variance, which implies that there is no heteroscedasticity. Since no pattern structure could be identified, we concluded homoscedasticity. As we grand-mean centered all ordinal and continuous variables, multicollinearity should no longer have been a problem. However, for reconfirmation, this was tested by analysing the variance inflation factors (VIF). Since these were all well under 10, we were assured that there was no multicollinearity.

The multilevel regression analyses were composed hierarchically, meaning that we stepwise added variables to the model and executed a Likelihood-Ratio test (LRT), based on the -2 * log-likelihood values, to assess whether the inclusion of additional variables contributed to the model fit (IBM Corporation, s.d.; University of Virginia, s.d.; Woltman, Feldstain, MacKay & Rocchi, 2012). If the difference between log-likelihoods was significant, we concluded that the less restrictive model (i.e., the model with more variables) made more sense to use. First, we regressed the dependent variable on the level 2 control variables. Second, we appended one or more variables of interest. Thereafter, based on the LRT, we either retained or removed the included variable(s). We repeated steps 2 and 3 to (potentially) include additional variables.

Mediation and moderation were tested using the recommendations of Baron and Kenny (1986). According to this approach, there are four conditions required to deduce mediation (Baron & Kenny, 1986; Hayes, 2009). First, there must be a significant relationship between the independent variable (i.e., daily task crafting, daily relational crafting, daily cognitive crafting, or daily time-spatial job crafting) and the mediator (i.e., daily job enrichment). This link is referred to as the path a. Second, the relationship between the independent and dependent variable (i.e., daily intrinsic motivation), known as path c, should be significant (Baron & Kenny, 1986; Hayes, 2009). In the third place, we need a significant association between the mediator and the dependent variable (path b). Lastly, the significant relationship between the independent and dependent variable should disappear when the mediator is included in the model (path c'). If this occurs, we conclude full mediation. If the relationship between the independent and dependent variable is still significant, but less strong, we infer a partial mediation effect. To ascertain whether the indirect relationship is significant, we performed a Sobel test (Baron & Kenny, 1986; Sobel, 1982).

Initially, we made the multilevel regression by including all daily crafting variables at once (Table 2 and 3). However, to counter the potential risk that the daily crafting variables influenced each other and made certain relationships insignificant, we conducted a series of additional regression models using Baron and Kenny's hierarchical method, in which we only included one daily crafting variable each time. All these models are listed in Appendix 2.

4 Results

In this section, we first focus on Pearson's correlations. Thereafter, we determine which hypotheses can be accepted based on the multilevel regression. Table 1 comprises the mean and standard error of each variable, an indication of the within-person variance for the level 1 variables (i.e, 1-ICC), and the Pearson's correlation coefficients.

4.1 Descriptive statistics and Pearson's correlation

First of all, there was a strong positive correlation between daily job enrichment and daily intrinsic motivation, $r(196) = .65$, $p < .001$, which was consistent with our expectations. Regarding the daily crafting forms, we found a strong positive correlation between daily task and cognitive crafting on the one hand and daily job enrichment on the other, respectively $r(196) = .55$, $p < .001$ and $r(196) = .66$, $p < .001$. Furthermore, we noticed a moderate positive correlation for daily relational crafting and daily job enrichment, $r(196) = .39$, $p < .001$, but a significantly small correlation for daily time-spatial job crafting, $r(196) = .15$, $p < .05$. This relatively small effect is caused by the exclusion of autonomy in the calculation of daily job enrichment. Daily time-spatial job crafting primarily focuses on boosting this specific work characteristic. In addition, it is also striking that only daily time-spatial job crafting showed no correlation with daily intrinsic motivation, $r(196) = .12$, $p = .10$.

With regard to the moderator in this study, the personal need for growth and development opportunities, we presumed to detect a correlation with daily job enrichment or daily intrinsic motivation. However, there was only a moderate positive correlation with daily cognitive crafting, $r(196) = .27$, $p < .001$.

Concerning the control variables, it is noteworthy that Deliveroo had a moderate negative correlation with daily task crafting, $r(196) = -.35$, $p < .001$, while Takeaway exhibited a small positive correlation, $r(196) = .19$, $p < .01$. We derived the opposite conclusion for daily time-spatial job crafting and additionally observed that Uber Eats had a small positive correlation with this crafting form, $r(196) = .15$, $p < .05$. Furthermore, it is remarkable that Uber Eats was the only organisational variable that showed a (moderate positive) correlation with daily intrinsic motivation, $r(196) = .31$, $p < .001$. In line with our expectations, age positively correlated with daily job enrichment, $r(196) = .17$, $p < .05$, and daily intrinsic motivation, $r(196) = .26$, $p < .001$, and tenure negatively correlated with these variables, $r(196) = -.17$, $p < .05$. Lastly, it is interesting to note that male app-workers showed a small positive correlation with daily cognitive crafting, $r(196) = .18$, $p < .05$, and daily time-spatial crafting, $r(196) = .18$, $p < .05$).

Table 1: Mean, standard deviations, within-person variation indicator and Pearson's correlations

	M	SD	1-ICC	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Daily task crafting	2.86	1.27	0.32													
2. Daily relational crafting	3.94	1.63	0.36	.37***												
3. Daily cognitive crafting	3.99	1.41	0.33	.61***	.51***											
4. Daily time-spatial job crafting	4.58	1.29	0.56	.10	-.10	.18*										
5. Daily job enrichment	4.05	.97	0.22	.55***	.39***	.66***	.15*									
6. Daily intrinsic motivation	4.32	1.28	0.26	.45***	.38***	.57***	.12	.65***								
7. Personal need for growth and development opportunities	5.36	1.06		-.04	.06	.27***	-.02	.12	.10							
8. Gender (0 = male; 1 = female)	.16	.37		.03	.00	.18*	.18*	.02	.07	.08						
9. Age	25.44	6.28		.08	.08	.22**	-.02	.17*	.26***	.39***	.00					
10. Tenure	21.10	17.43		-.24***	.00	-.13	.11	-.17*	-.17*	-.03	.00	-.03				
11. Deliveroo (0 = no; 1= yes)	.44	.50		-.35***	-.17*	-.15*	.20**	-.12	-.10	.04	.18*	-.02	.53***			
12. Takeaway (0 = no; 1= yes)	.39	.49		.19**	.11	.06	-.34***	.03	-.05	-.01	-.23***	-.21**	-.30***	-.70***		
13. Uber Eats (0 = no; 1= yes)	.33	.47		.14	-.02	.11	.15*	.14	.31***	.05	-.10	.34***	-.17*	-.03	-.47***	
14. Weekly average working hours	16.45	7.31		.06	.03	-.04	-.12	-.07	-.12	-.04	-.14	.24***	-.10	-.04	.02	.06

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05

4.2 Mediation-moderation model

In line with *hypothesis 1*, we concluded a significant positive relationship between daily job enrichment (B =.54, p < .001) and daily intrinsic motivation based on Model 2c (Table 3). This implies that app-workers who experience a more enriched daily work design become more intrinsically motivated.

Contrary to our expectations, we found that the personal need for growth and development did not exert a moderating effect, as this variable (B = -.08, p = .44) and accompanying interaction term (B = .05 p = .51) were not significant in Model 2c (Table 3). Hence, *hypothesis 2* could not be accepted.

Hypothesis 3a, 3b, 3c and 3d respectively postulated that daily task, daily relational, daily cognitive, and daily time-spatial job crafting would be positively related to daily intrinsic motivation for app-workers through its effect on daily job enrichment. Firstly, we regressed all the level 2 control variables on daily job enrichment (Model 1a, Table 2). Subsequently, to investigate path a, the four daily job crafting variables were appended (Model 1b, Table 2). This model showed a significant improvement in fit compared to Model 1a, due to daily task crafting (B = .12, p < .05), daily relational crafting (B = .07, p < .05) and daily cognitive crafting (B = .19, p < .001), but not for daily time-spatial job crafting (B = .04, p = .22). Therefore, the first mediation condition could be accepted for all daily crafting variables, except for the latter form. To verify the second condition needed for mediation to occur, we regressed all level 2 control variables on daily intrinsic motivation (Model 2a, Table 3). Next, the four daily job crafting variables were inserted (Model 2b, Table 3). The LRT revealed a significant enhancement of the model fit (Δ = 23.42, df = 4, p < .01), which was solely attributable to the addition of the daily relational crafting variable (B = .15, p < .01). Since we accepted hypothesis 1, the third mediation condition could also be accepted, implying an indirect relationship between daily relational crafting and daily intrinsic motivation through daily job enrichment. We conducted a Sobel-test to test whether this indirect relationship was statistically significant. in contrast to our expectations, the Sobel test rejected the partial effect (B = 1.66, p = .10). As the relationship could not be considered significant after all, we rejected hypothesis 3a, 3b, 3c and 3d based on the model including all daily crafting variables. In addition, it is also worth mentioning that Uber Eats (B = .82, p < .01) was positively related to daily intrinsic motivation (Model 2c, Table 3).

Table 2: Multilevel model for the prediction of daily job enrichment

	Daily job enrichment					
	Model 1a			Model 1b		
	B	SE	z-value	B	SE	z-value
Intercept	3.85	.49	7.86***	3.87	.36	10.83***
Deliveroo	.05	.45	.11	.24	.33	.74
Takeaway	.15	.51	.30	.11	.37	.28
Uber Eats	.26	.38	.70	.13	.28	.47
Weekly average working hours	-.01	.02	-.85	-.01	.01	-1.06
Tenure (months)	-.01	.01	-.94	-.01	.01	-1.35
Gender	.13	.36	.36	-.13	.26	-.52
Age	.03	.02	1.39	.02	.02	1.18
Daily task crafting				.12	.05	2.38*
Daily relational crafting				.07	.04	1.97*
Daily cognitive crafting				.19	.05	4.14***
Daily time-spatial job crafitng				.04	.04	1.22
-2 * loglikelihood	379.38			326.71		
Δ-2 * Loglikelihood (LRT)				52.66***		
Δdf				4		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered

Table 3: Multilevel model for the prediction of daily intrinsic motivation

	Daily intrinsic motivation								
	Model 2a			Model 2b			Model 2c		
	B	SE	z-value	B	SE	z-value	B	SE	z-value
Intercept	3.56	.58	6.18***	3.50	.47	7.49***	3.58	.40	9.00***
Deliveroo	.30	.52	.58	.55	.43	1.29	.44	.37	1.20
Takeaway	.59	.60	.99	.60	.49	1.23	.55	.42	1.32
Uber Eats	.98	.44	2.19*	.90	.36	2.50*	.82	.30	2.68**
Weekly average working hours	-.03	.02	-1.52	-.03	.02	-1.89	-.02	.01	-1.72
Tenure (months)	-.01	.01	-.83	-.01	.01	-1.19	-.01	.01	-.85
Gender	.43	.42	1.02	.24	.34	.71	.33	.29	1.13
Age	.05	.02	2.04*	.04	.02	2.08*	.04	.02	1.96
Daily task crafting				.12	.07	1.58	.04	.07	.60
Daily relational crafting				.15	.05	2.83**	.11	.05	2.22*
Daily cognitive crafting				.09	.07	1.37	.01	.07	.11
Daily time-spatial job crafitng				.04	.05	.78	.01	.05	.25
Daily job enrichment							.54	.10	5.65***
Need for G&D							-.08	.10	-.76
Daily job enrichment * Need for G&D							.05	.07	.66
-2 * loglikelihood	502.08			478.65			449.26		
Δ-2 * Loglikelihood (LRT)				23.42**			29.39***		
Δdf				4			3		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered – 'Need for G&D' refers to 'Personal need for growth and development opportunities'

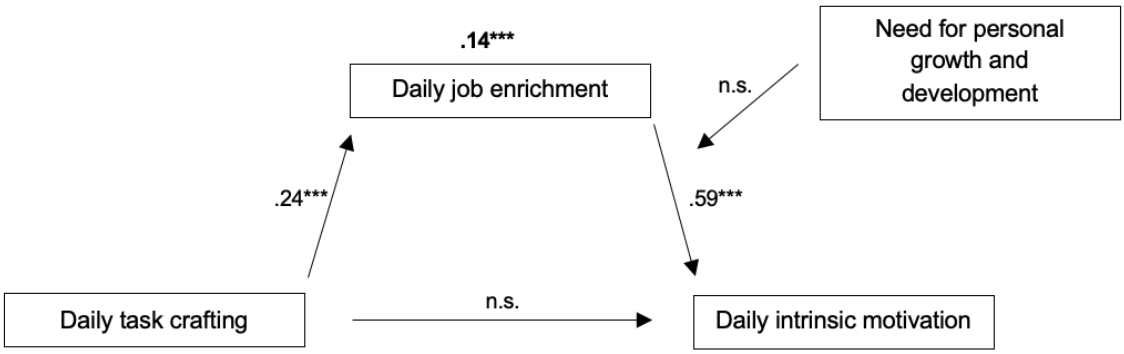
As a cross-check validation, we conducted the analysis once more when hierarchically building the regressions with one daily crafting variable each time (all these models are exhibited in Appendix 2). We commenced by regressing all the level 2 control variables on daily job enrichment (Model 1a in Table B.1, B.3, B.5, and B.7) and subsequently added one daily crafting variable per model to construct path a. Based on Model 1b in Table B.1, we concluded that daily task crafting ($B = .24$, $p < .001$) was significant and thus contributed to the model fit ($\Delta = 24.49$, $df = 1$, $p < .001$). Model 1b in tables B.3 and B.5 respectively showed that daily relational crafting ($B = .15$, $p < .001$) and daily cognitive crafting ($B = .27$, $p < .001$) were also significant and conducive to the model fit ($\Delta = 19.13$, $df = 1$, $p < .001$; $\Delta = 40.34$, $df = 1$, $p < .001$). Hence, the first mediation condition could be accepted for these three crafting methods. Model 1b in Table B.7 showed that daily time-spatial job crafting ($B = .06$, $p = .09$) was not significant, explaining the insignificance of the LRT ($\Delta = 2.91$, $df = 1$, $p = .09$). This conclusion already signalled that hypothesis 3d had to be rejected. Therefore, further analysis for this crafting method was not described, but has been added in Table B.8 in Appendix 2.

Subsequently, we regressed all the level 2 control variables daily intrinsic motivation (Model 2a in Table B.2, B.4, and B.6) and incorporated a daily crafting variable into each model. Model 2b in Table B.2, B.4, and B.6 respectively revealed that daily task crafting ($B = .22$, $p < .01$), daily relational crafting ($B = .20$, $p < .001$), and daily cognitive crafting ($B = .22$, $p < .001$) were significant, implying that the second mediation condition could be accepted. Condition three, requiring daily job enrichment to significantly affect daily intrinsic motivation, could also be accepted in all cases. Model 2c in Table B.2 exhibited that the effect of daily task crafting ($B = .08$, $p = .22$) on daily intrinsic motivation became insignificant after adding daily job enrichment. The Sobel test confirmed this full mediation effect ($B= 3.87$, $p < .001$). Hence, we accepted hypothesis 3a. Based on model 2c in Table B.4, the effect of daily relational crafting ($B = .12$, $p < .05$) diminished after the addition of daily job enrichment. The Sobel test asserted this partial mediation ($B = 3.92$, $p < .001$), allowing to accept hypothesis 3b. Moreover, this crafting form also has a direct promoting effect on daily intrinsic motivation. Lastly, the effect of daily cognitive crafting ($B = .07$, $p = .26$) became insignificant after including daily job enrichment (Model 2c, Table B.4). Again, the Sobel test affirmed this full mediation effect ($B = 4.70$, $p < .001$). Therefore, we also accepted hypothesis 3c.

To summarise, based on the models including all daily crafting variables, we found that daily job enrichment is positively related to daily intrinsic motivation for app-workers. The personal need for growth and development does not moderate this relationship. From the models focusing on one specific crafting variable each time, we concluded that daily task and daily cognitive crafting have a full indirect effect on intrinsic motivation through daily job enrichment. Daily relational crafting had a partial indirect effect, implying that this crafting method is also directly related to daily intrinsic motivation. Finally, we found no statistical evidence for an (in)direct link between daily time-spatial job crafting and daily intrinsic motivation.

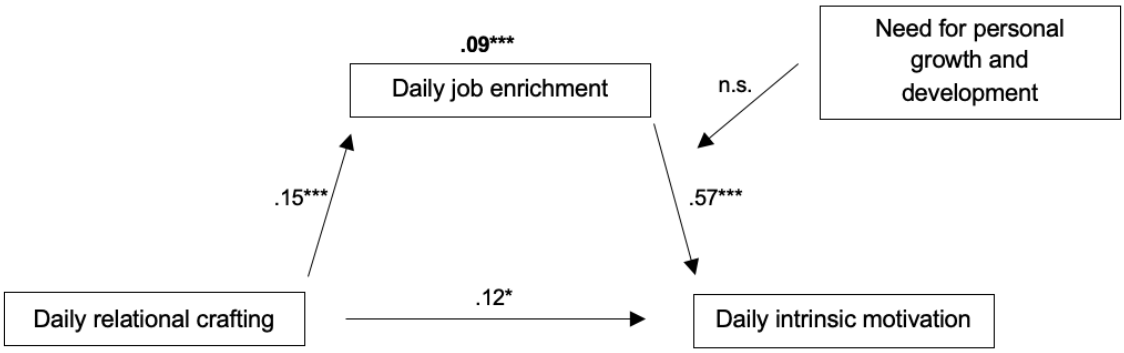
4.3 Conceptual frameworks with coefficients

Figure 2: Conceptual framework with coefficients (Daily task crafting)



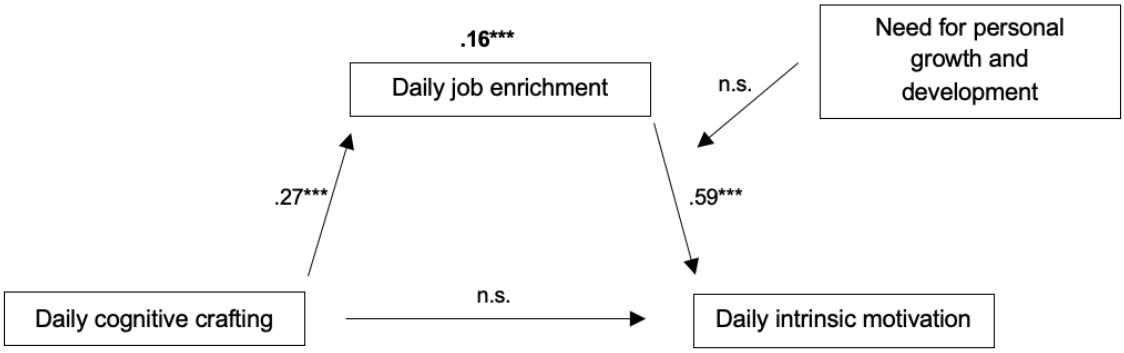
Note: The coefficients are drawn the analysis models in which exclusively daily task crafting (of all crafting variables) has been added.

Figure 3: Conceptual framework with coefficients (Daily relational crafting)



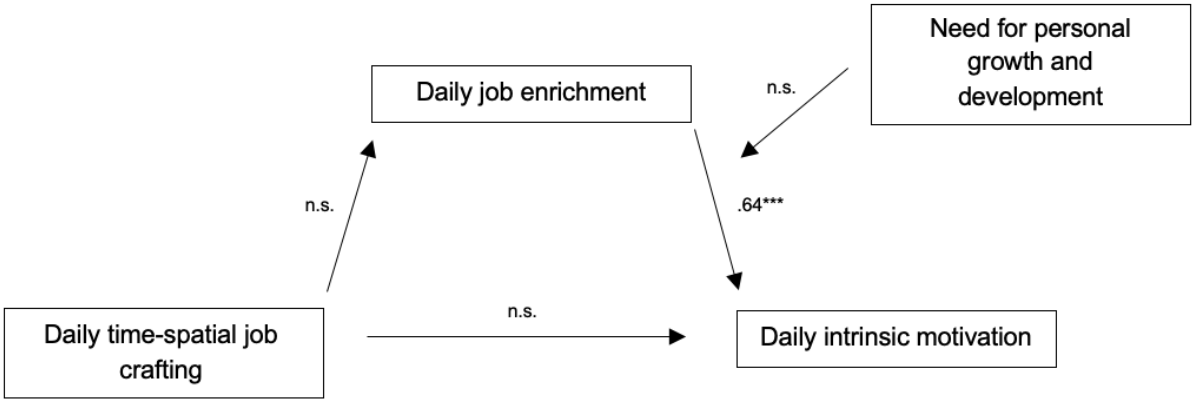
Note: The coefficients are drawn the analysis models in which exclusively daily relational crafting (of all crafting variables) has been added.

Figure 4: Conceptual framework with coefficients (Daily cognitive crafting)



Note: The coefficients are drawn the analysis models in which exclusively daily cognitive crafting (of all crafting variables) has been added.

Figure 5: Conceptual framework with coefficients (Daily time-spatial job crafting)



Note: The coefficients are drawn the analysis models in which exclusively daily cognitive crafting (of all crafting variables) has been added.

5 Discussion

Using a general questionnaire and four-day diary study, this master's thesis strived to examine whether daily task, daily relational, daily cognitive, and daily time-spatial job crafting are positively related to daily intrinsic motivation for app-workers through daily job enrichment. In addition, we aimed to investigate whether app-workers' personal need for growth and development opportunities moderates the relationship between daily job enrichment and daily intrinsic motivation. This section respectively outlines the theoretical contributions, limitations and recommendations for further research and the practical implications. The study's results primarily revealed that daily task, daily relational, and daily cognitive crafting enable app-workers to enhance daily job enrichment and indirectly boost daily intrinsic motivation.

5.1 Theoretical contributions

This masters' thesis makes three important contributions. First, in line with Hackman and Oldham's (1976) Job Characteristics Model (i.e., JCM), we found that daily intrinsic motivation was higher among app-workers whose daily work design was more enriched. This conclusion suggests that altering the content and structure of a job (i.e., enhancing the level of task variety, task significance, task identity, autonomy, and feedback) will likely lead to a greater consciousness of the alleged psychological states (i.e., sense of meaningful work, feeling responsible and having knowledge of work results) and subsequently results in beneficial outcomes, among which daily intrinsic motivation (Orpen, 1979). Considering the striking discrepancy between the traditional organisational model (on which the JCM is based) and the gig work model, this conclusion additionally proves the value of the JCM to point out at the most general level what an individual looks for in a job (Hackman & Oldham, 1976). Therefore, we underline the universal application of the JCM and its relevance in contemporary research.

However, we found no significant evidence that app-workers' personal need for growth and development moderates the relationship between daily job enrichment and daily intrinsic motivation. This contradicts Hackman and Oldham's theoretical idea and findings from similar research, supporting that this trait has a moderating effect (Hackman & Oldham, 1975; Sarkawi, Jaafar, Shamsuddin & Rahim, 2016; Zargar, Vandenberghe, Marchand & Ayed, 2014). Doucette and Bradford (2019) revealed that dual job holding individuals exhibit different work attitudes and performance level in their (traditional) primary job versus secondary gig job. The motivation to perform the latter job essentially is to increase income. We suspect that a substantial group of respondents did carry out app-work as a sideline activity because the average number of weekly working hours (i.e., 16 hours) was significantly less than those of a full-time job (i.e., 40 hours), and already 11 respondents indicated that they were working while being a student. Based on Doucette and Bradford's (2019) research, we speculate that ambitious individuals who consider app-work to be a secondary job invest in their need for growth and development within their main activity (i.e., primary job or study). For the remaining respondents, who solely perform app-work and may be ambitious, we suspect that the moderating effect was buffered by the unsatisfactory growth and development opportunities offered by the work and potentially the prime focus to earn money (Duggan et al., 2020; Lin et al., 2020). In addition, the insignificance of the moderation effect may also be attributable to the high average score respondents gave to the questions on growth and development, which possibly made the 'high' and 'low' differences too small.

Second, this master's thesis further unveiled that daily task, daily relational, and daily cognitive crafting boost app-workers' daily intrinsic motivation through daily job enrichment. This conclusion supports Wrzesniewski and Dutton's (2001) theory that job crafting enables to change work

design and indirectly leads to more work meaning and a better self-image. We uniquely contribute to this theory by showing that crafting also serves to indirectly foster intrinsic motivation. In sectors like app-work, where organisations typically do not provide any top-down support for job enrichment or intrinsic motivation, it is relevant to discover that the three crafting methods mentioned above present bottom-up approaches to provide quality work design for app-workers and indirectly boost intrinsic motivation (Garg & Rastogi, 2006; Jabagi et al., 2019; Parker & Grote, 2019). In fact, this conclusion resembles a third contribution to the work and organisation literature regarding app-workers, as relatively little research exists on this group to date.

5.2 Limitations and suggestions for further research

Although this study yields meaningful conclusions, it is imperative to bear in mind several limitations. First, we worked with a relatively small sample size (i.e., 51 respondents), which may have caused insignificance of certain relationships. However, a low sample size has been a common problem that previous academics also faced (Bakker & Oerlemans, 2019; Tims et al., 2014). Scherbaum and Ferreter (2009) state that increasing the number of respondents boosts statistical explanatory power. Moreover, Ohly et al. (2010) report that former reputable researchers gathered at least 100 respondents. Therefore, replicating the study with an increased sample size could lead to more in-depth results. To facilitate the search for participants, we recommend future researchers to hand out questionnaires translated in French, as many food delivery app-workers in Flanders did not understand Dutch or English but indicated that they could speak French. In this manner, selection bias can also be limited.

Furthermore, it is imperative to review the results of this study with proper consideration, as the mediation effects were verified using a Sobel test. Although this test has been used frequently in previous research, it is not rated as the most reliable instrument. It assumes that the standard error a*b is normally distributed, which may not be the case when the sample size is relatively small. Ideally, the results should be validated using a bootstrap which is a resampling method that helps to reduce the risk of type I error. Furthermore, bootstrapping is also strongly recommended as it serves as a solution for small sample sizes (Cleeren, 2020). However, given that we used the mediation conditions of Baron and Kenny, it was not possible to utilise the bootstrap method as control.

In addition, it is important to mention that the study's validity and reliability may suffer from common method bias due to app-workers' inadequate language understanding. Some respondents did not understand all questions and potentially filled in answers that not reflect their actual behaviour. During the data collection, we also noticed that some respondents filled in the diary questionnaires in the middle of their work shift and not afterwards. Hence, it is possible that certain concepts were inadequately measured. Finally, we cannot exclude the risk of reversed causality between daily job enrichment and daily intrinsic motivation. Due to a lack of time, we were required to measure both concepts in the same questionnaire.

In future studies, we would also explore whether the amount of daily income generated by app-work has a moderating effect on the relationship between daily job enrichment and daily intrinsic motivation. Previous research has shown that the beneficial effects of enrichment are buffered when it does not lead to income bonuses (Locke, Sirota & Wolfson, 1976). In the case of app-workers, a few hours of work may result in very little income, causing discouragement and potentially less intense enrichment effects.

Finally, it is worth noting that there is a significant relationship between Uber Eats and daily intrinsic motivation, indicating that someone who works for this organisation is more intrinsically motivated than app-workers who work for the other two organisations. This strongly suggests that

the functioning of app-work organisations influences how and to what extent individuals engage in job crafting. Perhaps, Uber Eats may offer distinctive aspect that promote intrinsic motivation. However, in general, Uber Eats (s.d.) and Deliveroo (s.d.) have a similar working method. Both organisations work with self-employed statutes, offer little or no fringe benefits, and pay a certain amount to the courier for each order delivered. Conversely, Takeaway (s.d.) offers an employment contract with several essential elements such as insurance and a fixed hourly wage. In future research, it might be interesting to extensively explore the effect of the organisations' way of operating on the level of job enrichment and intrinsic motivation.

5.3 Practical implications

This research demonstrates that daily task, daily relational and daily cognitive crafting are bottom-up approaches empowering app-workers to self-enrich the content and structure of the job and indirectly foster intrinsic motivation. In the world of app-work, known for the lack of top-down HR support, this is a valuable insight for individuals (Garg & Rastogi, 2006; Jabagi et al., 2019). Moreover, organisations can also infer valuable lessons from this conclusion, as most of them are failing single-handedly to adapt work design to the needs of the individual, let alone to motivate them intrinsically, which are probable causes of the high turnover rate and negative connotation this type of job gets. Based on the findings of this study, app-work organisations could try to develop a human resource policy in which they stimulate craft initiatives of staff (Geldenhuys et al., 2021). In the first place, management can do this by providing more opportunities to adapt the task and relational boundaries of work, for instance by offering more chores that match personal preferences, providing facilities where colleagues can talk to each other, etc. Furthermore, they could also offer empowering workshops, for example, where they specifically guide and assist individuals in carrying out job crafting (Thun & Bakker, 2018).

6 Bibliography

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Appendix 1

Personal need for growth and development opportunities (Hackman & Lawler, 1971)

I would like to have…

1. …stimulating and challenging work.
2. …chances to exercise independent thought and action in my job.
3. …opportunities to learn new things from my work.
4. …opportunities to be creative and imaginative in my work.
5. …opportunities for personal growth and development in my job.
6. …a sense of worthwhile accomplishment in my work.

Daily task crafting (Bindl et al., 2019)

Today during work, I…

1. …actively took on more tasks.
2. …added complexity to my tasks by changing their structure or order.
3. …changed my tasks so that they were more challenging.
4. ...increased the number of difficult decisions I made in my work.

Daily cognitive crafting (Bindl et al., 2019)

Today during work, I…

1. …thought about how my job contributed to the organization's goals.
2. …thought about ways in which my job as a whole contributed to society.
3. …focused my mind on the best parts of my job, while trying to ignore those parts I didn't like.
4. …thought about new ways of viewing my overall job.

Daily relational crafting (Bindl et al., 2019)

Today during work, I…

1. …actively tried to meet new people (e.g., other riders, customers, …).
2. …made efforts to get to know other people (e.g., other riders, customers, …) better.
3. …tried to interact with other people (e.g., other riders, customers, …) regardless of how well I knew them.
4. ...tried to spend more time with a wide variety of people at work.

Daily time-spatial job crafting (Verelst et al., 2019)

Today, I…

1. …chose the moments when I worked so that I could better meet the demands of my private life.
2. …chose the places where I worked so that I could better meet the demands of my private life.
3. …adjusted the places where I worked so that I could better meet the demands of my job.
4. …adjusted the moments when I worked so that I could better meet the demands of my job.

Daily job enrichment (Idaszak & Drasgow, 1987)

Skill variety

Today…

1. …my work required me to use a number of complex or high-level skills.
2. …my work allowed me to use a number of complex or high-level skills.

Task identity

Today…

1. …I did a 'whole' and identifiable piece of work.

Note: this is a complete piece of work that has an obvious beginning and end, instead of a small part of the overall piece of work.

2. …my work was arranged so that I could do an entire piece of work from beginning to end.

Task significance

Today…

1. …I could affect a lot of other people with my work.
2. …my work was very meaningful and important in the broader scheme of things.

Autonomy

Today…

1. …my work gave me a chance to use my personal initiative and judgment in carrying out the work.
2. …my work gave me considerable opportunity for independence and freedom in how I do the work.

Feedback

Today…

1. ...the execution of the job itself provided me with information about my work performance.

Note: This means that the actual work itself provided clues about how well I was doing – aside from any 'feedback' of customers, the app or co-workers may have provided.

2. …just doing the work required by my job provided many chances for me to figure out how well I was doing.
3. …customers, the app or co-workers (e.g., other riders) told me how well I was doing my job.

4. ...customers, the app or co-workers (e.g., other riders) gave me "feedback" about how well I was doing in my work.

Daily intrinsic motivation (Van Yperen & Hagedoorn, 2003)

Today I liked my job because ...

1. …I felt pleasure of doing new things.
2. ...I felt pleasure while learning new things.
3. ...I felt pleasure while improving some of my weak points.
4. ...I experienced satisfaction while I was perfecting my job skills.
5. ...I felt pleasant in my job.
6. ...I felt excitement when I was really involved in my job.

Appendix 2

Table B.1: Multilevel model for the prediction of daily job enrichment (Daily task crafting)

	Daily job enrichment					
	Model 1a			Model 1b		
	B	SE	z-value	B	SE	z-value
Intercept	3.85	.49	7.86***	3.83	.41	9.30***
Deliveroo	.05	.45	.11	.25	.38	.66
Takeaway	.15	.51	.30	.13	.43	.30
Uber Eats	.26	.38	.70	.14	.32	.45
Weekly average working hours	-.01	.02	-.85	-.02	.01	-1.21
Tenure (months)	-.01	.01	-.94	-.01	.01	-1.07
Gender	.13	.36	.36	.00	.30	.01
Age	.03	.02	1.39	.03	.02	1.62
Daily task crafting				.24	.05	5.30***
-2 * loglikelihood	379.38			354.89		
Δ-2 * loglikelihood (LRT)				24.49***		
Δdf				1		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered

Table B.2: Multilevel model for the prediction of daily intrinsic motivation (Daily task crafting)

	Daily intrinsic motivation								
	Model 2a			Model 2b			Model 2c		
	B	SE	z-value	B	SE	z-value	B	SE	z-value
Intercept	3.56	.58	6.18***	3.54	.51	6.92***	3.66	.40	9.06***
Deliveroo	.30	.52	.58	.49	.47	1.04	.36	.37	.96
Takeaway	.59	.60	.99	.57	.53	1.06	.50	.42	1.18
Uber Eats	.98	.44	2.19*	.86	.40	2.18**	.76	.31	2.44*
Weekly average working hours	-.03	.02	-1.52	-.03	.02	-1.85	-.02	.01	-1.60
Tenure (months)	-.01	.01	-.83	-.01	.01	-.90	.00	.01	-.61
Gender	.43	.42	1.02	.31	.37	.84	.32	.29	1.11
Age	.05	.02	2.04*	.05	.02	2.27*	.04	.02	1.93
Daily task crafting				.22	.06	3.43**	.08	.06	1.23
Daily job enrichment							.59	.09	6.64***
Need for G&D							-.06	.10	-.60
Daily job enrichment * Need for G&D							.06	.07	.82
-2 * loglikelihood	502.08			491.84			454.62		
Δ-2 * loglikelihood (LRT)				10.23**			37.23***		
Δdf				1			3		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered – 'Need for G&D' refers to 'Personal need for growth and development opportunities'

Table B.3: Multilevel model for the prediction of daily job enrichment (Daily relational crafting)

	Daily job enrichment					
	Model 1a			Model 1b		
	B	SE	z-value	B	SE	z-value
Intercept	3.85	.49	7.86***	3.77	.45	8.32***
Deliveroo	.05	.45	.11	.18	.41	.44
Takeaway	.15	.51	.30	.17	.47	.37
Uber Eats	.26	.38	.70	.29	.35	.84
Weekly average working hours	-.01	.02	-.85	-.01	.02	-.93
Tenure (months)	-.01	.01	-.94	-.01	.01	-1.21
Gender	.13	.36	.36	.10	.33	.31
Age	.03	.02	1.39	.02	.02	1.27
Daily relational crafting				.15	.03	4.50***
-2 * loglikelihood	379.38			360.25		
Δ-2 * loglikelihood (LRT)				19.13***		
Δdf				1		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered

Table B.4: Multilevel model for the prediction of daily intrinsic motivation (Daily relational crafting)

	Daily intrinsic motivation								
	Model 2a			Model 2b			Model 2c		
	B	SE	z-value	B	SE	z-value	B	SE	z-value
Intercept	3.56	.58	6.18***	3.46	.52	6.60***	3.59	.40	8.99***
Deliveroo	.30	.52	.58	.47	.48	.98	.40	.37	1.10
Takeaway	.59	.60	.99	.62	.55	1.14	.54	.42	1.30
Uber Eats	.98	.44	2.19*	1.01	.41	2.50*	.83	.31	2.71**
Weekly average working hours	-.03	.02	-1.52	-.03	.02	-1.69	-.02	.01	-1.66
Tenure (months)	-.01	.01	-.83	-.01	.01	-1.13	-.01	.01	-.84
Gender	.43	.42	1.02	.39	.38	1.03	.35	.29	1.24
Age	.05	.02	2.04*	.04	.02	1.98*	.04	.02	1.91
Daily relational crafting				.20	.05	4.17***	.12	.05	2.53*
Daily job enrichment							.57	.09	6.70***
Need for G&D							-.08	.10	-.79
Daily job enrichment * Need for G&D							.05	.07	.74
-2 * loglikelihood	502.08			485.81			449.82		
Δ-2 * loglikelihood (LRT)				16.27***			35.99***		
Δdf				1			3		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered – 'Need for G&D' refers to 'Personal need for growth and development opportunities'

Table B.5: Multilevel model for the prediction of daily job enrichment (Daily cognitive crafting)

	Daily job enrichment					
	Model 1a			Model 1b		
	B	SE	z-value	B	SE	z-value
Intercept	3.85	.49	7.86***	3.98	.38	10.52***
Deliveroo	.05	.45	.11	.08	.34	.24
Takeaway	.15	.51	.30	.02	.39	.04
Uber Eats	.26	.38	.70	.13	.29	.46
Weekly average working hours	-.01	.02	-.85	-.01	.01	-.86
Tenure (months)	-.01	.01	-.94	-.01	.01	-1.15
Gender	.13	.36	.36	-.13	.28	-.47
Age	.03	.02	1.39	.01	.02	.93
Daily cognitive crafting				.27	.04	7.02***
-2 * loglikelihood	379.38			339.03		
Δ-2 * loglikelihood (LRT)				40.34***		
Δdf				1		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered

Table B.6: Multilevel model for the prediction of daily intrinsic motivation (Daily cognitive crafting)

	Daily intrinsic motivation								
	Model 2a			Model 2b			Model 2c		
	B	SE	z-value	B	SE	z-value	B	SE	z-value
Intercept	3.56	.58	6.18***	3.66	.49	7.48***	3.69	.40	9.25***
Deliveroo	.30	.52	.58	.33	.44	.74	.31	.36	.85
Takeaway	.59	.60	.99	.48	.51	.95	.48	.41	1.16
Uber Eats	.98	.44	2.19*	.87	.38	2.31*	.77	.31	2.51*
Weekly average working hours	-.03	.02	-1.52	-.03	.02	-1.65	-.02	.01	-1.54
Tenure (months)	-.01	.01	-.83	-.01	.01	-0.94	.00	.01	-.64
Gender	.43	.42	1.02	.22	.36	.62	.31	.29	1.06
Age	.05	.02	2.04*	.04	.02	1.85	.03	.02	1.87
Daily cognitive crafting				.22	.06	3.79***	.07	.06	1.14
Daily job enrichment							.59	.09	6.28***
Need for G&D							-.08	.10	-.82
Daily job enrichment * Need for G&D							.06	.07	.88
-2 * loglikelihood	502.08			490.88			454.90		
Δ-2 * loglikelihood (LRT)				11.20***			35.97***		
Δdf				1			3		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered – 'Need for G&D' refers to 'Personal need for growth and development opportunities'

Table B.7: Multilevel model for the prediction of daily job enrichment (Daily time-spatial job crafting)

	Daily job enrichment					
	Model 1a			Model 1b		
	B	SE	z-value	B	SE	z-value
Intercept	3.85	.49	7.86***	3.81	.48	7.88***
Deliveroo	.05	.45	.11	.07	.44	.17
Takeaway	.15	.51	.30	.23	.50	.45
Uber Eats	.26	.38	.70	.27	.37	.71
Weekly average working hours	-.01	.02	-.85	-.01	.02	-.81
Tenure (months)	-.01	.01	-.94	-.01	.01	-.98
Gender	.13	.36	.36	.11	.35	.30
Age	.03	.02	1.39	.03	.02	1.47
Daily time-spatial job crafting				.06	.04	1.71
-2 * loglikelihood	379.38			376.46		
Δ-2 * loglikelihood (LRT)				2.91		
Δdf				1		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered

Table B.8: Multilevel model for the prediction of daily intrinsic motivation (Daily time-spatial job crafting)

	Daily intrinsic motivation								
	Model 2a			Model 2b			Model 2c		
	B	SE	z-value	B	SE	z-value	B	SE	z-value
Intercept	3.56	.58	6.18***	3.53	.57	6.17***	3.67	.41	8.92***
Deliveroo	.30	.52	.58	.32	.53	.62	.29	.37	.77
Takeaway	.59	.60	.99	.65	.60	1.08	.50	.43	1.16
Uber Eats	.98	.44	2.19*	.98	.44	2.21*	.78	.31	2.49*
Weekly average working hours	-.03	.02	-1.52	-.03	.02	-1.50	-.02	.01	-1.48
Tenure (months)	-.01	.01	-.83	-.01	.01	-0.85	.00	.01	-.58
Gender	.43	.42	1.02	.41	.42	.99	.36	.29	1.22
Age	.05	.02	2.04*	.05	.02	2.10*	.04	.02	1.86
Daily time-spatial job crafting				.05	.05	.92	.00	.05	.05
Daily job enrichment							.64	.08	7.72***
Need for G&D							-.07	.11	-.65
Daily job enrichment * Need for G&D							.07	.07	.91
-2 * loglikelihood	502.08			501.23			456.11		
Δ-2 * loglikelihood (LRT)				.85			45.12***		
Δdf				1			3		

Note: N = 196 days within 51 individuals - ***p < 0.001 **p < 0.01, *p < 0.05 – All non-categorical variables are grand-mean centered – 'Need for G&D' refers to 'Personal need for growth and development opportunities'

Press release

Job crafting enhances the intrinsic motivation of app-workers

12/05/2021 - For immediate release

Within organisations, it is essential to foster worker's intrinsic motivation, meaning that they find their work exciting and inherently enjoy doing it. This responsibility primarily lies with a company's supervisor or leader, who has to ensure that the content and structure of the job is attractive and challenging, but what if this pivotal actor is missing? This problem has been emerging in organisations that base their business model on algorithms (i.e., app-work organisations). Although the technological implementations help reduce costs and increase efficiency, little or no importance is given to the enrichment of work design. Therefore, within the Human Resource Management Department at KU Leuven, research was conducted on app-workers and the possible effect of daily job crafting on daily intrinsic motivation through daily job enrichment.

Daily job crafting is a proactive method allowing individuals to tailor the content and structure of a job to satisfy personal preferences. The findings of this study reveal that app-workers can self-enrich the everyday design of a job using specific crafting techniques and consequently promote daily intrinsic motivation. More specifically, app-workers can do this by adjusting the number or type of tasks they have to perform (i.e., daily task crafting), by improving the degree and quality of interactions with colleagues or customers (i.e., daily relational crafting), and by altering the perception of (part of) the job (i.e., daily cognitive crafting).

This research fundamentally has implications for app-workers, as daily job crafting grants opportunities to self-foster daily intrinsic motivation rather than relying on HR support from organisations. Nonetheless, these organisations can also draw insights, mainly that it is relevant to encourage daily crafting behaviour, for example, by providing more tasks that match workers' personal preferences or providing facilities where colleagues can talk to each other.

The study

To conduct this study, an online general questionnaire was administered among 51 food app-workers to measure the extent to which these people had a personal need for growth and development. Subsequently, an online diary survey was conducted over four days to measure daily craft behaviour, daily job enrichment, and intrinsic motivation levels.

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