

Job crafting in Serbia: Serbian mixed-method validation of the Job Crafting Scale*

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The aim of the current study was to validate the Serbian adaptation of the Job Crafting Scale (JCS), applying both qualitative and quantitative approaches, within three studies totalling 832 employees from different industries. Job crafting is work behaviour aimed at modifying job tasks in order to enhance and maintain work motivation. In Study 1, we have tested the understanding of all items and their possible cultural embeddedness. In Study 2, we have tested the JCS factor structure, factors' reliability and validity. In Study 3, we have tested the invariance of the proposed models (Study 2 and Study 3 models) and criterion validity by analysing the correlation between the JCS and work engagement. Qualitative analysis has revealed that the majority of items transferred the intended meaning. Special care should be taken in interpreting the decreasing hindering job demands dimension scores, since these items might point toward behaviours that were not perceived as positive. With its overall reliability, second-order four-factor model invariance and criterion validity, originally composed 21-item JCS could be considered to be a valid instrument for assessing job crafting in Serbia. The present study has also shown that the 12-item JCS-Serbian short version has satisfactory psychometric properties and that it could be considered as a valid local job crafting scale.

Keywords: job crafting, Serbia, JCS, mixed-method research

Highlights:

- This study demonstrated that the 21-item JCS is a reliable and valid instrument for assessing job crafting in Serbia.
- The study also revealed that the 12-item JCS, Serbian version, is a valid local job crafting measure suitable for large-scale research.
- The qualitative analysis showed that most of the items were properly understood.

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- Some of the items from the decreasing hindering job demands dimension were perceived as ambiguous or negative.
- Special care should be taken in interpreting the decreasing hindering job demands dimension scores.

Job crafting is associated with proactive (self-initiated) behaviours at work aimed at modifying job tasks and/or other formally defined aspects of the job (Bakker & Derks, 2012; Wrzesniewski & Dutton, 2001). Relying upon the Job demands-resources model (JDR model; Bakker & Demerouti, 2007; Bakker & Demerouti, 2017), the Job Crafting Scale (JCS) was developed and validated through a series of research studies involving Dutch employees (Tims et al., 2012). The results showed that there were four independent job crafting dimensions: increasing social job resources (e.g., increasing social support, supervisory feedback), increasing structural job resources (e.g., increasing the variety of resources, possibilities for professional development, and autonomy), increasing challenging job demands (e.g., learning about new developments, taking on extra, unpaid tasks, starting new projects), and decreasing hindering job demands (e.g., making work emotionally less intense, minimizing contact with problematic people).

The JCS was subsequently adapted and validated within different national and cultural contexts (e.g., Akin et al., 2014; Bakker et al., 2018; Cenciotti et al., 2016; Eguchi et al., 2016; Rogala & Cieślak, 2019; Rudolph et al., 2017) that enabled comparable, cross-cultural insights on job crafting. These studies largely sustained the initial job crafting operationalization and JCS structure (Tims et al., 2011), while at the same time urged the necessity for its further international explorations, especially when it comes to understanding of items that belong to the same dimensions (e.g., decreasing hindering job demands). The aim of this study was to validate the Serbian adaptation of the Job Crafting Scale applying a mixed-method approach. Within the three separate studies we have analysed the understanding of the JCS items (qualitative research); we have verified the JCS factorial structure, reliability and validity of extracted factors; and, finally, we have tested the measurement model invariance and criterion validity.

Theoretical and Research Background

Tims et al. (2012) define job crafting as a set of actions autonomously undertaken by an employee to optimize the interplay between job demands and resources in order to achieve the established work goals in line with personal abilities, needs and motivation (Bakker & Demerouti, 2017; Tims & Bakker, 2010). Being focused on redesigning the features of the existing job, job crafting can be differentiated from other proactive behaviours which can also be found in the work context, such as taking initiative. These other proactive behaviours

should be more noticeable in an array of life contexts other than work (Rudolph et al., 2017). In the JDR model (Bakker & Demerouti, 2017), there are two broad groups of job characteristics – job demands and job resources that interplay and initiate motivation and strain. These are two different processes that consequently lead to job performance. Responding to job demands and enlarging job and personal resources could act as a buffer that may, in turn, reduce exhaustion. Within the JDR model, job crafting is a part of the ‘empowerment’ cycle, the bottom-up, person-driven tactic for job re-design that could enrich personal and job resources. In contrast to a job (re)design initiated by the employer, some researchers claimed that employees might, by themselves, proactively change their job tasks in order to make their job more meaningful (Bakker & Demerouti, 2017). Thus, job crafting may enlarge both personal and job resources that could further lead to work engagement, motivation and productivity. Employees’ searching for challenges and developing resources could in turn change work environment in a stimulative way, and increase their job satisfaction in general.

As Rudolph et al. (2017) pointed out, the concept of job crafting is not new. According to them, the concept of job crafting was announced by Kulk et al. (1987), more than thirty years ago. It was described as a participative strategy, the process during which employees actively change their job characteristics to improve person-job fit. Nevertheless, the research interest about job crafting increased significantly in the past decade (Rudolph et al., 2017), due to its clear positioning and operationalizing within JDR model (Bakker & Demerouti, 2017) and consequent Job Crafting Scale development (Tims et al., 2012).

The Job Crafting Scale (JCS) was developed through three separate studies with Dutch employees (Tims et al., 2012). These studies showed that there were four dimensions of job crafting (increasing social job resources, increasing structural job resources, increasing challenging job demands, and decreasing hindering job demands), covered by a total of 21 items that depicted various activities at work related to the optimization of job resources and diminishing job demands. All intercorrelations among the dimensions were significant and moderately positive, except in the case of the decreasing hindering job demands that showed no correlation with the remaining dimensions. It was shown that the JCS dimensions correlated with proactivity, personal initiative, cynicism, as well as with the peer-rated work engagement, employability, and job performance. This implied that there was discriminatory and convergent validity of the job crafting construct as assessed by this scale. The correlations between the dimensions of increasing social job resources, increasing structural job resources, and increasing challenging job demands, on the one side, and the peer-rated work engagement, employability and productivity on the other, ranged between .31 and .46. The decreasing hindering job demands dimension did not correlate with the peers’ ratings. Still, it was shown that the decreasing hindering job demands dimension correlated positively with cynicism ($r = [0.30; 0.35]$).

The validation of the JCS in Spain (Bakker et al., 2018) confirmed the four-factor structure (increasing structural job resources, decreasing hindering job demands, increasing social job resources, and increasing challenging job demands). The four-factor Spanish version of the JCS also showed divergent validity with significant positive correlations of the increasing structural job resources, increasing social job resources, and increasing challenging job demands on the one side with work engagement and proactivity on the other. The JCS validation study in Japan (Eguchi et al., 2016) revealed five dimensions, with the decreasing hindering job demands splitting into two dimensions (decreasing emotional and cognitive job demands). The JCS was also validated in Italy (Cenciotti et al., 2016). The Italian version of the JCS consisted of 13 items covering three dimensions: increasing structural job resources, increasing social job resources and increasing challenging job demands. Confirmatory factor analysis demonstrated the three-factor structure. Job crafting, represented through these three dimensions, correlated positively with work self-efficacy, work engagement and job performance. The Polish version of the JCS also replicated the four-factor structure of the original JCS, with satisfactory reliability and validity (Rogała & Cieślak, 2019). Likewise, the Turkish validation of the JCS (Akin et al., 2014) revealed a satisfactory fit of the four-factor solution, as well as good reliability coefficients for each dimension.

In a meta-analytic study of job crafting, based dominantly on the JCS but including some other, similar job crafting scales, combining over 122 samples from different national and cultural settings, Rudolph et al. (2017) called into question the overall conceptualization of job crafting. Meta-analytic confirmatory factor analysis has shown that the model with a single job crafting factor, on which all four job crafting dimensions loaded, gave a satisfactory fit. Nevertheless, having in mind the low standardized factor loading of the decreasing hindering job demands dimension on the latent job crafting factor, the researchers warned of the relationships of this dimension with the overall factor. Analysing the relative contributions of all job crafting dimensions to the prediction of the positive and negative work and organizational behaviours, Rudolph et al. (2017) revealed that, contrary to other three dimensions, the decreasing hindering job demands dimension was a better predictor of the negative work outcomes such as job strain or turnover intentions, whereas the other three dimensions were better predictors of positive work outcomes such as work engagement and job satisfaction.

Job crafting is applicable to assessing the adaptive behaviours of both white- and blue-collar workers. Nevertheless, some adjustments of the JCS scale are needed when it comes to the population of the blue-collar workers. Nielsen and Abildgaard (2012) adapted and adjusted JCS (Tims et al., 2012) for assessing the blue-collar workers' job crafting. They obtained a different factor structure with five dimensions: increasing challenging demands, decreasing social demands (employee endeavours to avoid the emotionally challenging work situations), increasing social job resources, increasing quantitative demands (the employees' attempts to find more tasks for themselves), and decreasing hindering

demands. As Nielsen and Abildgaard (2012) pointed out, social interaction for blue-collar workers could be both a resource and a demand. In addition, the increasing structural job resources dimension was not found in the blue-collar workers' sample since it was likely that they had the limited prospects of re-designing their jobs in order to reach more autonomy and develop themselves professionally.

As Wrzesniewski and Dutton (2001) pointed out, job crafting implies the employees' freedom to "craft" what they do in their job and how they do it, be it minor alterations or more radical changes. So, it could be presumed that job crafting demands certain organizational enabling conditions, stemming not only from the industry, but from economy and culture as well. There is research evidence that work engagement varies across Europe depending on economic activity and productivity (Schaufeli, 2018). Following the JDR model and some findings based on it (e.g., Lu et al., 2014), the engaged employees craft their jobs in order to create better person-job fitting. Therefore, it could be proposed that apart from the organizational conditions, in order to craft, employees should have some favourable economic conditions as well. Serbian economy is characterized by a high unemployment rate (13.6% of the labour force, aged 15–74, compared to 7.6% for the EU–28 countries in 2017, Eurostat, 2019) and high involuntary temporary employment rate (21.2%, compared with 7.4% for the 28 EU countries average in 2018, Eurostat, 2019). So, it is interesting to explore job crafting in the specific, turbulent context of Serbia. Moreover, Serbia is a country with several decades of workers' participation approach (during socialist era) and thus overall conditions supportive of job crafting (Petrović et al., 2017; Kulk et al., 1987). In relation to this, the unique contribution of this validation study was not only in gathering data that support the etic status of job crafting (in addition to validation studies from a still limited number and variety of countries), but enriching our knowledge about its emic embeddedness.

Finally, following Hofstede's (2001) cultural dimensions framework, it may also be argued that job crafting as a "work strategy" could be perceived differently in different cultures (Gordon et al., 2015), and, hence, used in different ways. Comparing job crafting of health care professionals in the USA and the Netherlands, Gordon et al. (2015) revealed that they crafted jobs in response to job and organisational demands that were an expression of Hofstede's cultural dimension of masculinity (higher in the USA) vs. femininity (higher in the Netherlands). In the context of Hofstede's cultural dimensions (2001), Serbia is notable for being a high power distance society (a society with a larger degree of accepting unequal distribution of power) and collectivistic society. In that sense, it could be of significance to test robustness of the job crafting in the specific cultural, economic and national context of Serbia, particularly by using the same instruments, and the same data gathering procedure (Llorens et al., 2006). On the other hand, by offering internationally validated scale for assessing job crafting, we also opted for inspiring and encouraging researchers and practitioners from Serbia to undertake more comparable job crafting research. This kind of research could offer an insight that would be comparable to those from other European

countries, at the same time laying grounds for human resources management interventions that would exactly be tailored to the Serbian organizational context.

The Overall Aim

The aim of the research was to validate the Serbian adaptation of the Job Crafting Scale (Tims et al., 2012), applying a mixed-method approach within three studies. In particular, the goals were: 1) to analyse in detail the understanding of the JCS items; 2) to explore and verify the factorial structure of the JCS; 3) to test the reliability and validity of the proposed factors; 4) to test the measurement model invariance, and 5) to investigate the construct validity through the relationship with work engagement. The overall goal was to enrich the understanding of job crafting by exploring this concept in the specific Serbian cultural and economic context.

The JCS Scale Adaptation to Serbian and the Overall Procedure

The first step in our research was to translate JCS (Tims et al., 2012) from English and linguistically adapt it for the use in Serbian language. The JCS was translated through the committee technique in three iterations (Brislin et al., 1973). After each step in translation, we carried out back translation into English. Each item is followed by the 5-point frequency scale from 1 = *never* to 5 = *very often*.

In this paper, we report the findings based on three separate studies. We used the same questionnaire for studies two and three that were carried out on independent, convenience samples. The survey data were gathered in the paper and pencil form, with the presence of a trained field researcher. Participation was voluntary and not compensated. All three studies were conducted in accordance with the Code of Ethics of the Serbian Psychological Society (2000), with the informed consent from all participants.

Study 1

The aim of Study 1 was to analyse the employees' understanding of the JCS items (Tims et al., 2012) through exploring the following topics: work activities associated with each item, checking the conceptual understanding of each item, identifying the possible negative implications, noticing the possible limitations of item applicability in different work and job contexts and detecting the possible mutual similarity of items, as well as their possible cultural embeddedness. With the qualitative approach we have opted for searching the means by which employees interpret their job crafting experience and for giving employees 'voice' during the process of scale testing (Gioia et al., 2013). This approach would allow us not only to validate presumable meaning, but rather to discover the new ones (Gioia et al., 2013).

Method

Procedure

A semi-structured qualitative interview was used to collect the data. The interviews were conducted by work and organizational psychology master students from the Department of Psychology, Faculty of Philosophy, University of Belgrade. As part of their coursework, students learned about the Job Demands-Resources Model (Bakker & Demerouti, 2007) in general, and the job crafting concept in particular (Tims et al., 2012). Additionally, they were trained for conducting this interview. Students recruited study participants during their obligatory professional fellowship within 12 organisations. They adopted targeted sampling aiming at those employees who worked for more than six months within the organisation, regardless of their age, profession, education and position. They were approaching respondents directly and also used the snowball technique in order to reach potential interviewees. The study was generally well accepted among employees (with 100% response rate) and all interviews were included in the analysis.

The interviews lasted between 30 and 60 minutes. In accordance with the stated aims, the data were gathered based on the questions covering the work activities associated with items, the meaning of each item, the resemblance with other items and whether each item indicated a positive or a negative work behaviour and possible mutual similarities of items. Firstly, respondents were asked to fill in a paper and pencil form of JCS in order to familiarize themselves with items. The quantitative data gathered in this study were not included in further quantitative analyses. Then, a researcher proceeded with an interview aiming to discuss the meaning of JCS items. After reading each item interviewer asked the following questions: “Which work activity do you associate with this item?”; “What is the meaning of this item?”; “Do you perceive the activity described in the item as a positive or a negative one?; Does this item resemble any of the other items from this questionnaire?”.

The data were analysed through qualitative content analysis (Flick, 2014) as one of the extensively used qualitative techniques for analyzing and reducing diverse textual materials (Bauer, 2000). In analyzing the materials from the interviews, we searched for the similarities and recurring themes in order to aggregate second order themes. Deducing from the available data, we made a general conclusion about the possible limitations of the items’ applicability and their possible cultural embeddedness.

Sample

The sample comprised 63 employees from different sectors and industries (41 were women; 44 with university education; 50% of the sample were in the age group 21–40, and age of remaining 50% of participants was in the range 41–65 years. Participation in the study was voluntary, non-compensated and confidential, all participants were informed about the possibility to withdraw from interviews at any point.

Results and Discussion

The answers were first sorted within the previously defined topics: work activities associated with items, item meaning, resemblance with other items, whether each item indicated a positive or negative work behaviour, the possible limitations of items’ applicability in different work and job contexts, possible mutual similarity of items (Table 1a–d, arranged by original subscales), as well as specific cultural embeddedness (Table 2). All the topics mentioned in respondents’ answers were covered, regardless of their frequencies. Table 2 lists the topics related to the items that may be culturally specific.

Table 1a
Qualitative analysis of the understanding of the JCS items – Increasing structural job resources dimension

Item	Associated with work activities	Meaning
		Negative indicator of work behaviour Similarity with some other item Possible limitation
1. I try to develop my capabilities	Reading job-related material, discussing issues with colleagues, finding job related trainings, and asking managers for support (office jobs)	<i>Meaning:</i> Personal development, investing effort <i>Similarity:</i> Item 2
2. I try to develop myself professionally	Taking part in professional trainings, reading professional literature (office jobs); Developing and acquiring new working techniques and skills, learning how to make new products (production jobs)	<i>Meaning:</i> Personal development, development of professional skills <i>Similarity:</i> Item 1
3. I try to learn new things at work	Acquiring new skills, e.g., IT skills – new software (office jobs)	<i>Meaning:</i> Personal development, personal initiative for further development; Accepting new things, regardless of opposition to them, in order to survive at work <i>Possible limitation:</i> Behaviour perceived as an early career characteristic
4. I make sure that I use my capacities to the fullest	Applying all knowledge and capacities while performing challenging tasks (services); Applying all capacities while performing highly challenging and responsible assignments (technical jobs)	<i>Meaning:</i> Using personal capacities as much as possible
5. I decide on my own how I do things	Personally organizing daily work activities; personally choosing the way how to do the job (office and technical jobs)	<i>Meaning:</i> Autonomy at work <i>Negative indicator of work behaviour:</i> Arrogance, disdainful behaviour <i>Possible limitation:</i> In some jobs (e.g. truck drivers) and depending on the organizational culture, an employee cannot decide about the level of work autonomy

Table 1b
Qualitative analysis of the understanding of the JCS items – Decreasing hindering job demands dimension

Item	Associated with work activities	Meaning
		Negative indicator of work behaviour Similarity with some other item Possible limitation
6. I make sure that my work is mentally less intense	If the work is exhausting, I turn to schemes and do the job more mechanically, this happens often when working with people (service job); Performing repetitive, undemanding tasks without thinking about them (production jobs); Having work-life balance (service job, education)	<i>Meaning:</i> Job demands, job overload, lack of work engagement Protecting mental health, work-life balance <i>Similarity:</i> Item 7, 8 <i>Possible limitation:</i> Manufacturing and monitoring tasks/jobs; emotionally demanding service tasks that require empathy; performing jobs that are highly liked

Item	Associated with work activities	Meaning Negative indicator of work behaviour Similarity with some other item Possible limitation
7. I try to ensure that my work is emotionally less intense	Recovering after work by taking part in pleasing activities (technical jobs); Avoiding conflicts that could “spoil the day” (higher positioned job); “Inhaling, counting to three” (service job, education)	<i>Meaning:</i> Job demands, responsibility to oneself by preserving personal resources, and protecting health, work-life balance <i>Similarity:</i> Item 6, 8
8. I manage my work so that I try to minimize contact with people whose problems affect me emotionally	Delaying dealing with emotionally exhausting people; Raising barriers to protect oneself from clients’ problems that are emotionally exhausting (service jobs)	<i>Meaning:</i> Job demands, interpersonal relationships, protecting mental health, work-life balance <i>Negative indicator of work behaviour:</i> Could mean “turning a deaf ear” <i>Possible limitation:</i> Depending on a job, not applicable to all jobs <i>Similarity:</i> Item 6, 7, 9
9. I organize my work so as to minimize contact with people whose expectations are unrealistic	Minimizing contact with colleagues that do not appreciate the good work and always ask for more (service jobs)	<i>Meaning:</i> Managing challenging interpersonal relationships <i>Negative indicator of work behaviour:</i> Some jobs are characterized by continuous contacts with various demanding people that could not be minimized (their problems must be solved); word “minimizing” could be understood as avoiding <i>Possible limitation:</i> Unrealistic expectations are linked to managerial behaviour <i>Similarity:</i> Item 8
10. I try to ensure that I do not have to make many difficult decisions at work	It is perceived as negative work behaviour, and thus no one has an example in his/her work behaviour	<i>Meaning:</i> Responsibility at work, work engagement <i>Negative indicator of work behaviour:</i> Could be perceived as avoiding responsibility. Under demanding or unclear circumstances, it is necessary to consult other people. Could imply a lack of ambition. Sounds like “slimy” behaviour. Sounds like “doing just enough”. If an employee is sure of him/herself, he/she likes to make decisions. <i>Possible limitation:</i> Job does not entail making difficult decisions. Job entails making specific, difficult and demanding decisions independently and that could not be changed.
11. I organize my work in such a way to make sure that I do not have to concentrate for too long a period at once	Thinking upfront about all the steps needed to be taken for a repetitive tasks, well organizing work in advance (production jobs)	<i>Meaning:</i> sounds like “doing just enough”. <i>Negative indicator of work behaviour:</i> To be well performed, every job demands focused concentration that has to last for some period of time, this could lead to mistakes at work; “I think that work has to be done with more focus and higher concentration in order to be well done and with the purpose” (Engineer); Unethical work behaviour; Using shortcuts; Avoiding work; Rather avoiding responsibilities than being resourceful. <i>Possible limitation:</i> Depending on the job and expertise

Table 1c
Qualitative analysis of the understanding of the JCS items – Increasing social job resources dimension

Item	Associated with work activities	Meaning
		Negative indicator of work behaviour Similarity with some other item Possible limitation
12. I ask my supervisor to coach me	Asking supervisor for advice when uncertain how do something; Asking supervisor for advice in order to excel on specific assignment (office jobs)	<i>Meaning:</i> Ideas exchange; Seeking for the support and personal validation; Attachment to supervisor; Asking for feedback, wishing to learn, and advance; Consciousness <i>Negative indicator of work behaviour:</i> Asking for advice means giving additional power and validating supervisor’s formal powers; Asking for advice could lead to concluding about one’s incompetence <i>Limitation:</i> Taking this activity is highly dependable on the perceived competency of the supervisor <i>Similarity:</i> Item 13, 15, 16
13. I ask whether my supervisor is satisfied with my work	When doing something for the first time and when not having measurable quality indicator of work (creative industry job); Asking supervisor for feedback on weekly meetings (novice at work)	<i>Meaning:</i> Ideas exchange; Seeking for the support and personal validation; Wanting to learn and advance; Perfectionism <i>Similarity:</i> Item 12, 15, 16 <i>Limitation:</i> Work results are immediately visible, there is no need to ask the supervisor (office jobs); If something is wrong, the supervisor should point to that him/herself (office jobs); Asking supervisor for advice is only for beginners (office jobs)
14. I look to my supervisor for inspiration	“Stealing ideas” about the work technique from supervisors (production jobs); Trying to be better	<i>Meaning:</i> Ideas exchange; Seeking for the support and personal validation; Supervisor as the role model <i>Limitation:</i> Supervisor is perceived as a source of support in unclear situations rather than as an inspiration (service jobs); Depending on the supervisor
15. I ask others for feedback on my job performance	Asking close colleagues to assess work (office jobs); Being good team player; Trying to get feedback in order to perform job better (office job); Discussing ambivalent situation with colleagues (IT job)	<i>Meaning:</i> Ideas exchange; Seeking for the support and personal validation; Finding out how colleagues perceive one’s work; Relationships at work <i>Similarity:</i> Item 12, 13, 16 <i>Limitation:</i> Depending on the perceived colleagues’ expertise and interpersonal relationships (office jobs, service jobs)
16. I ask colleagues for advice	Asking more experienced colleagues for advice in unclear situations and/or when lacking expertise (office jobs); Being professional (creative job)	<i>Meaning:</i> Ideas exchange, Seeking for the support and personal validation; Exchanging experience and information; Helping and supporting colleagues; Continuous learning; Proactivity, having initiative; Being a team player <i>Negative indicator of work behaviour:</i> Asking for advice could lead colleagues to conclude about one’s incompetence <i>Similarity:</i> Item 12, 13, 15

Table 1d

Qualitative analysis of the understanding of the JCS items – Increasing challenging job demands dimension

Item	Associated with work activities	Meaning Negative indicator of work behaviour Problem with understanding Similarity with some other item Possible limitation
17. When an interesting project comes along, I offer myself proactively as project co-worker	Offering oneself to take part in important larger projects (office jobs); Taking part in some additional socially responsible project (service job)	<p><i>Meaning:</i> What someone does when an interesting job/task appears; Motivation; Professional advancement; Being proactive/open to new experience</p> <p><i>Similarity:</i> Item 18</p> <p><i>Limitation:</i> The job itself rarely offers opportunities for this activity (office jobs); Behaviour that is typical for younger workers; If there is enough time at work</p>
18. If there are new developments, I am one of the first to learn about them and try them out	Taking part in trainings to introduce new work approaches (service jobs); Taking part in interesting and challenging new developments at work (technical jobs); Trying out readily new technical solutions (technical jobs)	<p><i>Meaning:</i> Overall approach to work; Additional engagement at work; What someone does when an interesting job/task appears; Risk taking, Resourcefulness</p> <p><i>Problem with understanding the item:</i> “New developments” is problematic for understanding</p> <p><i>Similarity:</i> Item 17</p> <p><i>Meaning:</i> Motivation; Interest in work; Diligence; Proactivity; Helping colleagues if one’s job has been done (technical jobs)</p>
19. When there is not much to do at work, I see it as a chance to start new projects	Being engaged in additional activities at work (service job, education); Starting something new (office job)	<p><i>Negative indicator of work behaviour:</i> Workaholism; Employee does not have enough work to do; Employee is bored at work</p> <p><i>Limitation:</i> There are jobs in which employees are overloaded with work all the time and/or there is no spare time at work (production jobs); If you do not have too much to work you should work at a slower pace and preserve energy and recover; Certain level of autonomy is needed at work to be in a position to think about new projects</p> <p><i>Meaning:</i> Overtime work; Diligence; Work overload; Work commitment; Organizational commitment</p>
20. I regularly take on extra tasks even though I do not receive extra salary for them	Being engaged in extra activities related to well-being of one’s clients/users of services (service/education sector); Completing colleagues’ work when they cannot do it themselves (service job)	<p><i>Negative indicator of work behaviour:</i> Exploitation</p> <p><i>Limitation:</i> Employees perceive this activity in relation to the organization’s overall attitude towards them, whether they would want to support the organization’s endeavours without being paid for extra work; Employees should be paid for all the work they do, employees should not often perform additional tasks without being paid for them; Employees do not have time for the work that is not generating income</p>

Item	Associated with work activities	Meaning Negative indicator of work behaviour Problem with understanding Similarity with some other item Possible limitation
21. I try to make my work more challenging by examining the underlying relationships between aspects of my job	Motivating oneself by reminding about the broader meaning and/or aims of the job; Reflecting on the quality of work (service job); When upset about something at work, reminding oneself about the mission of the job (service/education job); Choosing work activities in line with personal values and/or mission of the job (office jobs)	<i>Meaning:</i> Job importance; Mission of the job <i>Problem with understanding the item:</i> The item was too abstract for respondents, the most difficult to understand

Table 2
JCS – Cultural embeddedness of items

Dimension / Item	Possible cultural embeddedness
Increasing structural job resources	
5. I decide on my own how I do things	Having too much freedom could be a challenge because of the lack of knowledge; You have to ask for advice sometimes Indicator of attitude towards superiors
Decreasing hindering job demands	
6. I make sure that my work is mentally less intense	You have to preserve your mental capacities for the family/private life
7. I try to ensure that my work is emotionally less intense	Emotional expression is widely spread and accepted in Serbian culture, making work emotionally less intense may seem as a lack of interest in work
Increasing social job resources	
12. I ask my supervisor to coach me	Asking the supervisor for coaching may seem as being a flatterer (“brown-noser”)
13. I ask whether my supervisor is satisfied with my work	The worker asking the supervisor for feedback may seem as being a flatterer (“brown-noser”)
15. I ask others for feedback on my job performance	Could be perceived as an indicator of insecurity and weakness
Increasing challenging job demands	
17. When an interesting project comes along, I offer myself proactively as project co-worker	It is better to preserve energy than to spread too much
19. When there is not much to do at work, I see it as a chance to start new projects	It is better to preserve energy than to spread too much
20. I regularly take on extra tasks even though I do not receive extra salary for them	Possible social, economic and cultural embeddedness, employees often experience economic hardship and do not have resources to do unpaid work, masochism, workaholism, Burning out and exhausting yourself; Collectivism, helping out and exhausting yourself; Collectivism, helping out and exhausting yourself; Collectivism, helping out and exhausting yourself; Collectivism, helping out and exhausting yourself
21. I try to make my work more challenging by examining the underlying relationships between aspects of my job	Perceived as a “philosophical issue”

The items from the first dimension, increasing structural job resources, were mainly understood as related to personal development. With the exception of item 5 (Table 1a), all other items were understood as intended. Besides the intended meaning, item 5 (“I decide on my own how I do things”) could also be understood as an expression of autonomy at work. If understood as an indicator of autonomy in decision making, this behaviour could point to arrogance, disdainful behaviour, and disregarding colleagues at work. From the collectivistic cultural context perspective, this could be perceived as a negative indicator of work behaviour (Table 2).

Concerning the dimension decreasing hindering job demands, we could say that we identified the problem with negative and/or ambiguous implications of the meaning of items. The items depict the employees’ reaction to irregular, stressful working conditions and work overload. The employees from Serbia perceived the decreasing hindering job demands in line with a local saying: “if employees are paid little, they can always work less.” decreasing mental, social, emotional demands could be perceived as “doing just enough” and could be a negative indicator of work engagement.

Concerning the dimension increasing social job resources (Table 3c), the items were tied with the meaning of exchanging ideas and experiences with colleagues. Furthermore, we could observe that, although they conveyed the intended meaning, all items, except item 14, were perceived as almost equal in meaning and highly mutually alike. In Serbia, as a “power distance culture” (Hofstede, 2001), turning to a supervisor is highly acceptable, but at the same time, the behaviours covered by these items could be perceived as a sign of weakness, and, moreover, as a sign of flattering (Table 2).

The items included in the increasing challenging job demands dimension (Table 1d) were understood as indicators of motivation and proactivity. Nevertheless, they were perceived as related to the organization, work and organizational commitment rather than as an expression of a personal career benefit. The expressed expectations that workers should be paid for every bit of work they do can be perceived as one of the “side-effects” of the transition from socialism to market economy. Item 21 was the most complex and abstract for understanding, regardless of the educational level and type of job (Table 1d). As expressed by some workers, “examining the underlying relationships between aspects of my job” can be perceived as a “philosophical issue” (Table 2).

In conclusion, the majority of items conveyed the intended conceptual meaning. Qualitative analysis pointed to several issues with the items from the decreasing hindering job demands and increasing social job resources dimension. The items of these dimensions were perceived as pointing to some behaviours that could be perceived as negative and having applicability limitations in relation to jobs and work contexts; further, employees perceived them as mutually similar. They were also significantly embedded in the cultural context. In other words, the specificities of our cultural context caused the interpretations that were not in line with the job crafting concept. Items 5, 14, and 21 were challenging regarding their meaning and ambivalent implications as it was previously explained.

Study 2

The aim of Study 2 was to explore and verify the factorial structure of the JCS and to test the reliability and validity of the proposed factors. We have tested both the first-order four-factor JCS model and the second-order JCS factor model that both presumed the existence of factors envisaged by Tims et al., (2012): increasing structural job resources, decreasing hindering job demands, increasing social job resources, and increasing challenging job demands. In further analyses, we have tested the reliability, convergent and discriminant validity of JCS dimensions.

Method

Procedure and Sample

The convenience sample consisted of 382 employees from 37 different organizations across Serbia (Belgrade, the capital city, and other towns). Research participation was anonymous, voluntary, and non-compensated. Employees filled out paper-and-pencil questionnaires at work, during the break, under the supervision of trained field-researchers. Field-researchers were graduate psychology students on their professional internship. They approached employees, asked for participation and arranged surveying at the time most convenient for the respondent. The response rate was very high, with rejection rate 2–5% per field-researcher. Data were gathered in the period February–July 2017.

Participants' average age was 40 years; 33.94% were men; 57.9% had university education, 10.9% completed vocational school, 30.2% high school, 0.5% elementary school and 0.5% did not specify the education. Almost three quarters, i.e. 84.8% were employees, and 15.2% were in some managerial position (i.e., managers, supervisors, or team leaders). The majority of respondents, 57.6%, came from the state-owned companies. Most of them worked in companies that had between 51 and 250 employees (46.2%). Participants were employed in different sectors – mainly the education sector (36.1%), followed by the health sector (22.8%), and the IT sector (7.9%). About one third of respondents worked for some other industries, each represented with less than 5% of the participants. Data were analysed using IBM SPSS 21 and IBM SPSS Amos.

Results and Discussion

Factorial Structure

Firstly, data were analysed in order to estimate their suitability for exploratory factor analysis. The value of the Kaiser-Meyer-Olkin (KMO) measure was .817 for the complete model. The KMO values for the items were greater than .70, which is above the satisfactory limit of 0.50 (Field, 2013). Bartlett's sphericity test showed statistical significance ($\chi^2[210] = 3342.53$; $p < .001$). Applying Guttman-Kaiser criterion (Eigenvalues > 1), five components were retained that explained 62.78% of the total variance. The first component explained 24.90%, the second component 14.42%, the third component 11.45%, the fourth component 6.95%, and the fifth component 5.10% of variance. However, Cattell's scree test and Horn's parallel analysis (eigen values higher than the threshold value taken out from the equally large matrix of random numbers – 21 variables *382) suggested a four principal component solution. As the four-factor solution gave the expected number and structure of the components, we

retained it for further analysis. For further component analysis we used maximum likelihood, with promax rotation (Table 3).

Table 3
The Job Crafting Scale – Serbian: Means, standard deviations, Cronbach's alphas, and component loadings

Items and dimensions	M	SD	Alpha*	Skewness		Kurtosis		Components			
				Stat	SE	Stat	SE	1	2	3	4
1. Increasing structural job resources	4.26	.55	.76	-.67	.12	.05	.25				
1. I try to develop my capabilities	4.30	.70						.81			
2. I try to develop myself professionally	4.31	.74						.93			
3. I try to learn new things at work	4.42	.72						.75			
4. I make sure that I use my capacities to the fullest	4.46	.68						.46			
5. I decide on my own how I do things	3.80	.93									.39
2. Decreasing hindering job demands	3.28	.75	.80	-.00	.12	-.00	.25				
6. I make sure that my work is mentally less intense	3.55	.93							.46		
7. I try to ensure that my work is emotionally less intense	3.60	.97							.48		
8. I manage my work so that I try to minimize contact with people whose problems affect me emotionally	3.25	1.19							.83		
9. I organize my work so as to minimize contact with people whose expectations are unrealistic	3.54	1.08							.78		
10. I try to ensure that I do not have to make many difficult decisions at work	2.99	1.04							.61		
11. I organize my work in such a way to make sure that I do not have to concentrate for too long a period at once	2.74	1.07							.59		
3. Increasing social job resources	2.77	.84	.84	.32	.12	-.09	.25				
12. I ask my supervisor to coach me	2.99	1.04									.69
13. I ask whether my supervisor is satisfied with my work	2.44	1.12									.87
14. I look to my supervisor for inspiration	2.45	1.22									.82
15. I ask others for feedback on my job performance	2.57	1.07									.61
16. I ask colleagues for advice	3.38	.90									.56

Items and dimensions	M	SD	Alpha*	Skewness		Kurtosis		Components			
				Stat	SE	Stat	SE	1	2	3	4
4. Increasing challenging job demands	3.40	.77	.79	-.21	.12	.00	.25				
17. When an interesting project comes along, I offer myself proactively as project co-worker	3.51	1.00									.64
18. If there are new developments, I am one of the first to learn about them and try them out	3.42	.98									.69
19. When there is not much to do at work, I see it as a chance to start new projects	3.33	1.03									.76
20. I regularly take on extra tasks even though I do not receive extra salary for them	3.27	1.15									.59
21. I try to make my work more challenging by examining the underlying relationships between aspects of my job	3.45	1.06									.50
% of Variance								10.20	10.81	22.22	5.13

Note. * Cronbach’s alphas were calculated based on the dimensions that are envisaged by Tims et al., 2012.

As can be seen from Table 3, all the dimensions had good reliability with Cronbach’s alphas all above .75. Cronbach’s alpha for the whole scale was .83. The number and structure of the components almost perfectly correspond to the initial version of the JCS. The only exception was item 5, “I decide on my own how I do things”, that loaded on the fourth dimension (*increasing challenging job demands*) instead of the first one (*increasing structural job resources*) (Table 3). “Alpha if item deleted” analysis for all items from subscale increasing structural job resources (including item 5), indicates that the reliability for this dimension increases to .84 if this particular item is deleted. Still, if the same item is included in calculating the Cronbach’s alpha for the fourth dimension (where this particular item eventually belongs in this analysis), the reliability somewhat decreases (to .77). The item 5 was also “singled out” in qualitative analysis and perceived differently (Table 1a), more in line with the items that were mainly understood as proactivity. The correlations between the factors (Table 5) were quite in line with Tims et al. (2012) initial validation study which showed that the increasing challenging job resources correlated with the increasing social job resources and the increasing structural job resources whereas the decreasing hindering job demands did not significantly correlate with other dimensions.

Testing the Factorial Structure – Confirmatory Factor Analysis

The JCS factorial structure was tested with the Confirmatory Factor Analysis (CFA) in the AMOS software. We tested the JCS within the first

(Table 4, Models 1 to 3) and second-order (Table 4, Models 4 to 6) confirmatory factor analysis because they were both supported in the previous research (e.g., Rudolph et al., 2017; Tims, et al., 2012). The first-order four-factor model had a generally poor fit (Table 4), especially judging by the values of the RMSEA and PClose (Hu & Bentler, 1999). Item 5 had a particularly low factor loading (.25), followed by items 6 (.46) and 7 (.47). In addition, items 20, 21, and item 4 could be taken into the consideration for being omitted from the scale, concerning the fact that they had factor loadings close to, but still below .60.

Searching for the way to improve the discrepancies between the proposed and the estimated model, we looked for the modification indices. Thus, we added covariance between the error terms between the items 6 and 7; 8 and 9; 10 and 11, and 17 and 18. All these covariances between the errors were included only within the same factor. The respondents from the first study perceived these items as mutually similar. It should be noted that the majority of these items belong to the decreasing hindering job demands dimension, except for the items 17 and 18 that belong to the increasing challenging job demands dimension. As can be seen from Table 4, these error covariances gave a more acceptable, but not a satisfactory fit. In addition, it should be noted that including error covariances could be problematic since this calls into question the construct validity (Hair et al., 2010). These covariances actually point towards the problematic relationship between some items, as well as their content per se. So, we tested the third model – the first-order, four factor model (the 12-item scale) – in which we omitted the most problematic items. We decided to omit the items based on both qualitative and quantitative analysis (based on the low factor loadings and modification indices). Hence, we excluded items 4, 5, 6, 7, 8, 14, 16, 17, 21, and came up with the 12-item JCS-Serbian short version scale. As can be seen from Table 4, this solution produced a good fit (Hu & Bentler, 1999). Apart from that, Cronbach's alpha for this short version was .74, which indicates solid reliability.

Finally, we tested the second-order job crafting model that represents the relationship of job crafting as an underlying factor with the first-order factors – increasing social support, increasing structural job resources, increasing challenging job demands, and decreasing hindering job demands. As in the previous analysis, we tested the model with and without error covariances, as well as the 12-item Serbian short version. The results are given in Table 4. As can be seen, the Serbian short version (Model 6) gave the best fit.

Table 4
The JCS-Serbian CFA fit indices

Model	χ^2	<i>df</i>	<i>p</i>	CMIN/ <i>df</i>	RMSEA [90% CI]	CFI	SRMR	PClose	TLI	IFI
1. First-order, four-factor model	631.14	183	.000	3.45	.08 [.07-.09]	.86	.07	.00	.84	.86
2. First-order, four-factor model with error covariance*	416.42	179	.000	2.33	.06 [.05-.07]	.93	.06	.02	.91	.93
3. First-order, four-factor model, 12-item scale	91.86	48	.000	1.91	.05 [.03-.06]	.97	.05	.52	.96	.97
4. Second-order, four-factor model	634.53	185	.000	3.43	.08 [.07-.09]	.86	.07	.00	.84	.86
5. Second-order, four-factor model with error covariance	421.34	181	.000	2.33	.06 [.05-.07]	.93	.07	.02	.91	.93
6. Second-order, four-factor model, 12-item scale	107.83	50	.000	2.16	.05 [.04-.07]	.96	.06	.26	.95	.97

Note. *Covariations of error terms that are part of the same factor.

Reliability and Validity of Factors

In further analysis, we tested the reliability and convergent and discriminant validity of the JCS factors (Table 5) using the Master validity tool for AMOS (Gaskin & Lim, 2016). For reliability, we used the measures of composite reliability (CR), for convergent validity, the average variance extracted (AVE), and for discriminant validity we used the maximum shared variance (MSV) and its relation to AVE ($MSV < AVE$), as well as the relation of the square root of AVE to inter-construct correlations. As can be seen from Table 5, in general, the indicators of composite reliability, convergent and discriminant validity were more satisfactory (Hu & Bentler, 1999) for the 12-item JCS-Serbian short version than for the original version of the JCS-Serbian. The average variance extracted was under .5 for the dimensions decreasing hindering job demands and increasing challenging job demands for the short version of the JCS. For the long version, it was below .5 for all dimensions, except for the increasing social job resources dimension. This certainly points to some issues already observed in the qualitative analysis, but since the AVE is considered to be a quite stringent indicator of convergent validity (Malhotra & Dash, 2011), we can rely on CR that is generally reasonable in both cases.

Table 5
The JCS-Serbian: Convergent and discriminant validity, intercorrelations of dimensions for the short and long version

Short version of the JCS							
	CR	AVE	MSV	3	2	1	4
3. Increasing social job resources	.78	.55	.14	.74			
2. Decreasing hindering job demands	.74	.49	.05	.23***	.69		
1. Increasing structural job resources	.87	.70	.27	.28***	-.03	.84	
4. Increasing challenging job resources	.72	.46	.27	.37***	-.04	.52***	.68
<i>Long version of the JCS</i>							
	CR	AVE	MSV	3	2	1	4
3. Increasing social job resources	.85	.53	.21	.73			
2. Decreasing hindering job demands	.79	.41	.02	.13*	.63		
1. Increasing structural job resources	.81	.49	.34	.29***	.07	.70	
4. Increasing challenging job resources	.79	.45	.34	.45***	.06	.58***	.67

Note. * $p < .050$; ** $p < .010$; *** $p < .001$; Square root of AVE is in bold, diagonally.

Study 3

The Study 3 had two aims. The first one was to test the measurement model invariance across samples (from Study 2 and Study 3). The second one was to investigate the construct validity through the relationship with work engagement. We expected that measurement invariance of the hierarchical structure of JCS, would be confirmed (Rudolph et al., 2017; Zhang & Parker, 2019). Apart from that, we expected that the correlation between job crafting and work engagement would be significant and positive since work engagement could be considered both an outcome and an antecedent of job crafting (Rudolph et al., 2017).

Method

Procedure and Sample

The convenience sample consisted of 387 employees from 34 organizations across Serbia (the capital Belgrade and other towns). Research participation was anonymous, voluntary, and non-compensated. Employees filled out paper-and-pencil questionnaires at work, during the break, under the supervision of trained field-researchers. Field-researchers were graduate psychology students on their professional internship. They approached employees, asked for participation and arranged surveying at the time most convenient for the respondent. Thus, the response rate was very high, with rejection rate 2–5% per field-researcher. Data were gathered in the period February–July 2018.

Participants' average age was 39 years; 62.70% were women. The majority of respondents (55.30%) graduated from university; 35% had a high school diploma, and 8.40% completed a vocational technical college. The vast majority (85.80%) were employees, while 14.20% were in some managerial position (i.e., managers, supervisors, or team leaders). The majority of employees, 52.90%, worked in state-owned companies. The largest number of participants were employed at the companies that had between 51 and 250 employees (43.8%). Employees worked in different economy sectors – almost one third, 31.30%, were

employed in the education sector, and the remainder worked in the health sector (20.20%), IT (11.1%), the technology hardware sector (6.5%), and trade (6%). Other industries were represented with less than 5% of employees each.

Measures

Apart from the JCS scale (Tims et al., 2012), we assessed work engagement using the Serbian version of the Utrecht Work Engagement Scale, the UWES-Serbian (Petrović et al., 2017). It consists of 17 items followed by a seven-point scale (from 0 = *Never*, to 6 = *Always*). It was shown that the Serbian version of the UWES-17 had a high reliability and that the factorial structure was in line with the envisaged model (vigour, dedication and absorption). Additionally, its predictive validity was good (Petrović et al., 2017). Cronbach's alpha in this research was .92.

Results and Discussion

Testing the invariance of the second-order JCS factor model

We tested the invariance of the second-order JCS factor model (both the JCS-Serbian and the JCS-Serbian, short) following the procedure proposed by Chen et al. (2005), as well as Rudnev et al. (2018). We analysed the second-order factor invariance with error covariance of the whole version of the JCS, as well as that of the short, 12-item JCS-Serbian version.

In order to identify the model (in both cases), we applied the marker item method. As marker items in both models we chose the following ones: "I try to develop myself professionally" (for increasing structural job resources); "I ask whether my supervisor is satisfied with my work" (for increasing social job resources); and "When there is not much to do at work, I see it as a chance to start new projects" (for increasing challenging job demands). All these items are actually the first indicators of each construct, which is usually the default option when building and testing models in AMOS. The marker variable for the dimension decreasing hindering job demands was "I manage my work so that I try to minimize contact with people whose problems affect me emotionally". When testing the invariance of the short, Serbian version (in which this item was not listed), we used the item "I organize my work so as to minimize contact with people". Both of these items, in both models, are the first indicators of each construct. For the second-order factor, Job crafting, the dimension increasing challenging job demands was chosen as the marker variable, since it could be understood as the most representative dimension of job crafting (e.g., Rudolph et al., 2017). Error covariances imposed in the previous study that lead to a better model fit were also included in testing the invariance of the original JCS form (since the unconstrained model, without error covariances, gave an unsatisfactory fit; $\chi^2 = 1300.488$; $df = 370$; RMSEA = .057 [.054-.061] CFI = .854).

After we had defined the model, we tested the measurement invariance by performing the sequences of 'the hierarchically nested models' (Chen et al., 2005, p. 482; Widaman & Reise, 1997). In other words, we tested the hierarchical series of the nested models that included the following conjoint steps: configural invariance (Model 1), invariance of the first-order factor

loadings (Model 2), invariance of the second-order factor loadings (Model 3), invariance of intercepts of the measured variables (Model 4), and invariance of the intercepts of the first-order latent factors (Model 5). The fit indices of each step and the model comparison are presented in Table 6.

Table 6
The long and short version of the JCS-Serbian: Fit indices of measurement invariance of the second-order factor model

Second-order, four-factor model with error covariance, 21-item version							
	χ^2	<i>df</i>	RMSEA	CFI	Model Comparison	$\Delta\chi^2$	<i>p</i>
Model 1 Configural invariance	861.37	362	.04 [.04-.05]	.92			
Model 2 Invariance of the first-order factor loadings invariant	882.69	379	.04 [.04-.05]	.92	2 vs. 1	21.32	.212
Model 3 First- and second-order factor loadings invariant	883.78	382	.04 [.04-.05]	.92	3 vs. 2	1.09	.780
Model 4 First- and second-order factor loadings and intercepts of the measured variables invariant	896.19	399	.04 [.04-.05]	.92	4 vs. 3	12.41	.775
Model 5 First- and second-order factor loadings, and intercepts of the measured variables and first-order factors invariant	898.22	403	.04 [.04-.05]	.92	5 vs. 4	2.03	.730
Second-order, four-factor model, 12-item scale							
	χ^2	<i>df</i>	RMSEA	CFI	Model Comparison	$\Delta\chi^2$	<i>p</i>
Model 1 Configural invariance	184.49	100	.03 [.02-.04]	.97			
Model 2 Invariance of the first-order factor loadings invariant	190.48	108	.03 [.02-.04]	.97	2 vs. 1	5.99	.648
Model 3 First- and second-order factor loadings invariant	191.45	111	.03 [.02-.04]	.97	3 vs. 2	.96	.810
Model 4 First- and second-order factor loadings, and intercepts of the measured variables invariant	195.15	120	.03 [.02-.04]	.98	4 vs. 3	3.70	.930
Model 5 First- and second-order factor loadings, and intercepts of the measured variables and first-order factors invariant	197.47	123	.03 [.02-.04]	.98	5 vs. 4	2.32	.509

As can be seen from Table 6, the fit measures for all five models for the long JCS form were acceptable (with RMSEA < .06 and CFI close to .95). Still, concerning these values, especially CFI, it could be concluded that the JCS-Serbian, short form, produced a good fit. Nevertheless, the χ^2 difference test for both JCS forms (the original, 21-item and the Serbian short form) did not show a significant difference or deterioration when comparing each step with the previous one. This indicates that both forms could be considered as invariant, but it should be noted that for testing the invariance of the original JCS form we included the error covariance.

Relationships of the JCS and UWES

Since we lacked the means to explore in depth the relationships of the JCS with other job crafting measures, we wanted to examine the relationships of the JCS with the conceptually related JD-R theory construct of work engagement, assessed by the UWES (Bakker & Demerouti, 2017). The correlations of the JCS-Serbian sub-scales and the total scores with the UWES-Serbian sub-scales and total scores are presented in Table 7 for the 21-item version and in Table 8 for the Serbian short 12-item version.

Table 7
The JCS-Serbian long version and the UWES (n = 316): means, standard deviations, and correlations

	<i>M</i>	<i>SD</i>	UWES Vigour	UWES Dedication	UWES Absorption	UWES Total
1. Increasing structural job resources	4.28	.55	.47**	.54**	.43**	.54**
2. Decreasing hindering job demands	3.21	.74	.05	-.09	-.00	-.02
3. Increasing social job resources	2.78	.85	.16**	.27**	.22**	.25**
4. Increasing challenging job demands	3.44	.80	.50**	.44**	.46**	.52**
5. Job crafting total (21 item)	3.42	.45	.45**	.43**	.42**	.49**

Note. * $p < .05$; ** $p < .01$.

Regarding the level of correlations of the JCS long and short versions with the UWES (tables 7 and 8), we could note that the JCS long version gave significant correlations with the UWES total and all three UWES dimensions, except the decreasing hindering job demands dimension that is generally not correlated with the UWES. In line with the findings of the qualitative analysis, the decreasing hindering job demands dimension is understood as a remedial activity rather than as a correlate of work engagement. Somewhat higher correlations of increasing structural job resources and increasing challenging job demands with all the UWES dimensions and UWES total confirm that the employees from Serbia that are more prone to craft their jobs are at the same time more engaged in their jobs, whereas investment and crafting of the social aspects of the job are more general issues rather than strictly related to the job itself.

Table 8
The JCS-Serbian short version and the UWES (n = 316): means, standard deviations, and correlations

	<i>M</i>	<i>SD</i>	UWES Vigour	UWES Dedication	UWES Absorption	UWES Total
1. Increasing structural job resources	4.38	.66	.36**	.47**	.36**	.45**
2. Decreasing hindering job demands	3.01	.85	-.02	-.12*	-.05	-.08
3. Increasing social job resources	2.70	.92	.14*	.22**	.18**	.20**
4. Increasing challenging job demands	3.38	.88	.47**	.36**	.43**	.47**
5. Job crafting total (12 item)	3.37	.50	.38**	.37**	.37**	.42**

Note. * $p < .05$; ** $p < .01$.

General Discussion

Wrzesniewski and Dutton (2001) pointed out that job crafting implies the employees' freedom to "craft" their jobs. Clearly, actual crafting behaviours are closely tied with the context-specific nature of the jobs in general and job crafting in particular, on the one side, and the conceptualization of crafting as a culturally specific "work strategy" (e.g., Gordon et al., 2015), on the other. Thus, to fully understand the concept of job crafting, it should be explored within a culturally sensitive approach in applying the JDR model. Having in mind a turbulent and sensitive social, economic and cultural context of Serbia as a specific context for job crafting, the aim of this research was to validate the Serbian adaptation of the Job Crafting Scale (JCS) applying the mixed-method, qualitative and quantitative approach within three studies.

The qualitative analysis of the JCS-Serbian adaptation revealed that the majority of items transferred the intended meanings. Nevertheless, it pointed to the problems with the understanding of some of the items from the decreasing hindering job demands and increasing social job resources dimensions.

The decreasing hindering job demands dimension is mainly understood as a protective strategy, oriented towards conserving the resources in "bad times" (highly demanding organizational circumstances), rather than as a proactive behaviour related to work engagement. The interpretation of hindering job demands as a protective strategy may set this dimension apart from the rest of the job crafting dimensions. However, this interpretation is in line with Tims et al. (2012) validation study results from Netherlands about significant moderate correlations of the scores on the decreasing hindering job demands subscale and the cynicism scores. This interpretation could also be supported by the results of the meta-analytic study of the concept of job crafting by Rudolph et al. (2017), that has shown that the decreasing hindering job demands dimension was a better predictor of negative work outcomes such as job strain or turnover intentions. That is why some researchers in their national JCS validation studies omitted the inclusion of decreasing hindering job demands dimension from the start (e.g., Cenciotti et al., 2016). Nevertheless, before putting it aside from the concept of job crafting, the decreasing hindering job demands dimension has to be further

investigated within different occupational groups, industries and cultures. As it was evident from Nielsen and Abildgaard (2012) research, mentioned early in this article, there are some occupational groups (e.g., blue-collar workers) in which some crafting behaviours (e.g., increasing structural job resources) were not found. Decreasing hindering job demands dimension could prove to be a proactive form of job crafting behaviour within a smaller group or cluster of employees or jobs.

The respondents from Serbia understood the items of the increasing social job resources sub-scale as intended, but they also understood them as quite mutually similar. This means that they expressed lower sensitivity in understanding them. It should be noted that four out of five items from this subscale cover the relationship with supervisor, and only one item deals with increasing social resources through colleagues. In Serbia, as high “power distance culture” (Hofstede, 2001), self-initiated approaching to a supervisor could be perceived as a sign of flattering. Based on lower level of agreement with the items from the increasing social job resources scale, we could conclude that respondents could perceive these behaviours as flattering which is not an accepted form of behaviour in high power distance culture. From standpoint of a collectivistic culture, the concept of increasing social job resources should be widespread and widely accepted behaviour, but these behaviours should be connected with colleagues, friends and team-members, rather than supervisors.

Quantitative analyses provided generally satisfactory results for the Serbian version of the originally composed 21-item JCS. As it can be seen from exploratory factor analysis, the number and structure of the components of the 21-item JCS almost perfectly correspond to the initial version of the JCS (Tims et al., 2012). The same number and structure of the components was also found within other national validation studies (e.g., Akın et al., 2014; Bakker et al., 2018; Rogala & Cieślak, 2019).

However, this study also revealed that the 12-item JCS-Serbian short version is a valid local measure of job crafting. Reliability, composite reliability and correlation with work engagement were higher in the case of the 21-item version. On the other hand, the short, 12-item version produced better CFA fit indices, as well as invariance, without the need of including the error covariance. Correlations between JCS dimensions were in line with Tims et al. (2012) validation study in which decreasing hindering job demands did not correlate with other dimensions, whereas the other three dimensions correlated among themselves. In line with our qualitative analysis, this result was expected since our respondents perceived the items from this dimension as avoiding behaviours, rather than positive and proactive behaviours. Our suggestion would be to include the 21-item version in research whenever it is possible in order to grasp the phenomenon in its richness and to enable cross-cultural comparisons. On the other hand, in case of large scale surveys in Serbia, 12-item scale would be a valid choice.

As for the relationship of job crafting and work engagement, behaviours leading to increasing structural and challenging job resources were more closely

tied with work engagement than the other two dimensions of crafting which is in line with Tims et al. (2012) validation study. This sheds some light on the nature of both constructs, since it points to their proactive and adaptive aspects. As Tims et al. (2012) pointed out, individuals who are proactive, who use their professional competences and their capacities to the fullest (the examples of increasing structural and challenging job resources behaviours) will likely be more engaged – i.e., would feel more dedicated, absorbed and more vigorous while doing their job (Bakker et al., 2020).

Limitations and Implications of this Research

As a final point, there are some limitations of this research that have to be pointed out. Though we had multiple samples, totalling more than eight-hundred employees from different sectors and vocations, the sample was not composed as a representative one. Including the blue-collar workers who work in different economic, social and cultural circumstances could be a valuable addition to the existing research. In relation to that, what may be a limitation of our research is that we did not explore and analyse the specificity of crafting in Serbia. On the one hand, this was justified by the intention to reach the necessary understanding and a reasonable ‘coverage’ and grasp the fullness of this phenomenon while keeping the comparability of the proposed solution. On the other hand, it is reasonable to further explore the culturally, economically and socially embedded crafting stories. Starting from twelve JCS items selected in this study that proved to be understandable, reliable and invariant, we could further explore some ‘missing’ stories that would cover the specificities of the Serbian context. Presented findings highlight our firm belief that, in the context of globalization and true cross-cultural approach to work and organisational issues, developing scales should be initially designed as a set of cross-cultural studies. This would lead to securing a more culturally invariant operationalization of the concept in question. Finally, the cross-sectional nature of this research could be regarded as a restriction in reaching the wide-ranging apprehension of this phenomenon. In relation to this point, further longitudinal research design endeavours could help us understand the possible brisk nature of this phenomenon, particularly within different economies.

Conclusion

The results of this mixed-method study demonstrate the validity of the JCS within the cultural, social and economic context of Serbia. The results have shown that the Serbian version of the originally composed 21-item JCS demonstrated generally satisfactory psychometric properties in line with Tims et al. (2012) validation findings. On the other hand, the study also revealed that the 12-item JCS version is a valid job crafting measure that could be reliably used within the Serbian context. This 12-item JCS version could be used within a large-scale study of work behaviour.

Qualitative analysis pointed toward the fact that conceptualization of decreasing hindering job demands dimension was not quite in line with general conceptualization of job crafting and that it could point toward negative job behaviours. On the other hand, some items of increasing social job resources dimension (such as turning to a supervisor as a role model) could be considered to be culturally sensitive and should be taken with caution. The presented research could be regarded as a contribution to JDR theory from specific cultural and national context of Serbia, as well as grounds for further developing cross-cultural and emic understanding of the job crafting concept.

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Preoblikovanje posla u Srbiji: srpska validacija Skale preoblikovanja posla (eng. Job Crafting Scale) korišćenjem kombinacije kvalitativne i kvantitativne metodologije

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Cilj ovog istraživanja je bila validacija srpske adaptacije Skale preoblikovanja posla (eng. the Job Crafting Scale – JCS), primenom kombinacije kvalitativnog i kvantitativnog pristupa u okviru tri studije na ukupnom uzorku od 832 osobe zaposlene u različitim sektorima privrede. Preoblikovanje posla (eng. job crafting) predstavlja ponašanje na poslu koje je usmereno na preoblikovanje radnih zadataka tako da se pojača i održi motivacija za rad. U prvoj studiji smo proveravali razumevanje stavki kao i prilagođenost sadržaja stavki našoj kulturi. U drugoj studiji smo proverili faktorsku strukturu JCS skale, kao i pouzdanost i validnost faktora. U trećoj studiji smo testirali invarijantnost predloženih modela između uzorka druge i treće studije, kao i kriterijumsku validnost analiziranjem korelacija JCS skale i posvećenosti poslu (eng. work engagement). Kvalitativna analiza je pokazala da većina ajtema uspešno prenosi željeno značenje. Posebnu pažnju treba obratiti na interpretaciju skorova dimenzije smanjivanje ometajućih zahteva na poslu pošto ovi ajtemi mogu ukazivati na ponašanja koja se ne opažaju kao poželjna. Imajući u vidu ukupnu pouzdanost, invarijantnost četvorofaktorskog modela drugog reda i kriterijumsku valjanost, verzija skale sastavljena od 21 ajtema se može smatrati validnom merom preoblikovanja posla u Srbiji. Takođe, ova studija je ukazala da kratka forma srpske verzije JCS skale od 12 ajtema ima zadovoljavajuća psihometrijska svojstva i da može biti validna lokalna mera preoblikovanja posla.

Ključne reči: preoblikovanje posla, Srbija, JCS, istraživanje kombinovanom metodologijom

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