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**THE INTERPLAY BETWEEN RELATIONAL JOB DESIGN AND CROSS-
TRAINING IN PREDICTING EMPLOYEE JOB/TASK CITIZENSHIP
PERFORMANCE**

Abstract

Drawing on a relational perspective to human resource development and management (HRD/M), a multilevel and multisource field study has been conducted examining how HRM practices of job interaction requirements/task interdependence and HRD practice of cross-training interplay in order to enhance employees' job/task citizenship performance (JCP). A two-level research model from a sample of 43 organizations and 535 nested individuals demonstrates that socially-enriched jobs (interactive and interdependent), when supplemented with organizational (system-wide) cross-training opportunities, increase extra efforts among employees to complete activities which are not part of their in-role requirements. Thus, by applying a 1-2-1 moderation analysis we offer new knowledge about social and cognitive aspects of human behavior above and beyond the traditional focus on narrowly defined job/task performance. In addition, we explicate how mutual understanding across job positions may practically contribute to achieving superior individual-level JCP when relational architecture of the workplace is designed.

Keywords

relational job design, cross-training, job interaction requirements, task interdependence, job/task citizenship performance, HRM–HRD nexus, multilevel analysis

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Introduction

Successful organizations need individuals who are “willing to go the extra mile” (Bolino & Klotz, 2017) and operate “beyond the expectations” of their job descriptions (Bass, 1985). Employees are increasingly expected to fill the gap between explicit job requirements and emergent organizational behaviors (Demerouti, Bakker, & Gevers, 2015). Besides completing assigned tasks and duties, they are encouraged to provide extra effort on the job (i.e., “engaging in task-related behaviors at a level beyond what is minimally required or generally expected”, cf. Dekas, Bauer, Welle, & Sullivan, 2013, p. 227) and demonstrate job/task conscientiousness (i.e., “persisting with enthusiasm and extra effort to complete activities successfully”, cf. Coleman & Borman, 2000, p. 27). This dimension of individual citizenship behavior is positively related to measures of unit- and organizational-level effectiveness (Organ, Podsakoff, & MacKenzie, 2006; Podsakoff, Whiting, Podsakoff, & Blume, 2009). It can be supported with an individual human resource management (HRM) practice of job design (Huselid, 2011), as well as through offering primary human resource development (HRD) practices of training and development (McLagan, 1989; Swanson & Holton, 2009).

Over the last decade, organizational scholars have been specifically studying how relational aspects of work, such as lateral communication (i.e., interacting with peers at the same level, but from different departments; Grant, 2007) and cross-functional collaboration (i.e., joint work with individuals from different business functions; Kilduff & Brass, 2010), influence discretionary behavior and performance. What we currently do know is that socially-enriched job characteristics can give employees a chance to learn and develop from others (Humphrey,

Nahrgang, & Morgeson, 2007), eventually resulting in higher levels of work effort (Devaro, 2010; Hernaus & Mikulic, 2014).

Concurrent yet mostly disconnected to relational job design are repeated calls for functional flexibility (e.g. Kersley et al., 2006) or even those calling to avoid functional stupidity (Alvesson & Spicer, 2017). The emphasis and hopes in the field of HRD are shifting from traditionally domain-specific training programs (primarily built to provide job-specific knowledge or develop a particular skill related to a specific job task or work activity; see Frei, Hugentobler, Schurman, Duell, & Alioth, 1993) towards specific relational-training practices (aimed at increasing inter-positional knowledge, i.e. familiarity with performing tasks above and beyond one's job) such as cross-training or team-training (e.g. Chen & Klimoski, 2007; Marks, Sabella, Burke, & Zaccaro, 2002; Salas, Nichols, & Driskell, 2007). This re-emerging trend of multiskilling (Abrams & Berge, 2010) enhances the understanding and coordination among employees by upskilling them about a wider range of job tasks/positions, different functional/business areas, and how these interact (Whitfield, 2000). Moreover, if perceived as a workforce development strategy, cross-training can potentially result in increased productivity or decreased labor costs, improved quality and better customer service, as well as in workload sharing and helping behaviors (Slomp & Molleman, 2002).

While existing literature offers unrelated explanations either by addressing in-role performance outcomes of specific relational HRM tools (Ebeling & Yee, 1994) or targeting planned performance-driven HRD activities of training and development (Brown & Latham, 2018), we still do not know much about how the interplay of relational job features and cross-domain training programs (that is, enhanced coordination) shapes citizenship behavior. From the HRM bundles' meta-analytic findings (Subramony, 2009), it could be only assumed that these relational HR practices—if approached together—would yield significantly larger magnitudes of effects than each being applied separately.

Therefore, supporting a pluralistic approach in treating a converging HRM–HRD nexus and partnership of respective complementary disciplines (Alagaraja, 2013; McGoldrick & Stewart, 1996; McLean & McLean, 2001; Ruona & Gibson, 2004), this study examines how organizational (system-wide) cross-training practices interact with relational aspects of individual jobs, i.e. task interdependence (“the extent to which employees depend on other members of their team to carry out their work effectively”, cf. Bacharach, Wang, Bendoly, & Zhang, 2007, p. 257) and job interaction requirements (“the extent to which a job requires an incumbent to communicate with people both inside [e.g. colleagues] and outside [e.g. suppliers or customers] of the organization”, cf. Hernaus & Poloski Vokic, 2014, p. 622) in enabling employees’ job/task citizenship performance (JCP). We build upon the work of Grant (2007) on the relational job design to highlight that organizations can achieve desired outcomes in a superior manner through frequent, high-quality communication supported by work relationships of shared (common) knowledge. We theorize that extra effort on the job and job/task conscientiousness are not expected to emerge solely from interactions among individuals; rather JCP is depended upon organizational support (Hoffer Gittell, Seidner, & Wimbush, 2010) and is enhanced when managers introduce cross-training as a relational HRD practice. We advocate that relational architecture of jobs and system-wide cross-training practices can be designed to increase discretionary workplace performance. By using a multilevel research design and empirically testing two-level data from a cross-occupational sample of organizations and nested employees, we attempt to bridge the macro–micro divide between human resource development and management (HRD/M) antecedents of employees’ JCP.

Our research aims to offer a three-fold contribution to the mutually reinforcing HRD/M literature. First, we build upon the relational perspective to job design by validating the importance of social job characteristics (i.e., communication and coordination) for a specific

type of extra-role performance. Thus, we offer new cross-disciplinary HRM–HRD nexus knowledge about socially structured and cognitive aspects of human behavior above and beyond the traditional focus on narrowly defined employees’ job/task performance. Second, the present multilevel study accounts for both organizational- and individual-level constructs and shows that formal (task interdependence) and informal (job interaction requirements) aspects of relational job design (an HRM practice) should be supplemented with cross-training activities (an HRD practice) to boost discretionary organizational behavior such as JCP. By addressing the importance of taking the macro–micro perspective for understanding and reaching higher levels of citizenship performance (Alagaraja, 2013) and by highlighting the benefits of having a cross-job view (Felstead, Fuller, Jewson, & Unwin, 2009; Marsick & Watkins, 2015), we provide evidence why organizations need to put an additional team training effort to develop lateral capabilities of their workforce. As such, we intend to re-open the discussion (Campbell, McCloy, Oppler, & Sager, 1993; McLagan, 1989) and stimulate further debates about linking training interventions with job design decisions to achieve workplace performance targets. Third, HRM and HRD have been approached as parallel, equally important academic fields. Thus, we unambiguously depart from a traditional subspecialized role of HRD (e.g. McLagan, 1989; Ruona, 2016, SHRM, 2014), and acknowledge that HRD has become a well-established and mature field of research and practice (e.g. Seo, Noh, & Ardichivili, 2019; Shirmohammadi, Mehdiabadi, Beigi, & McLean, 2020). Moreover, we offer a showcase example how HRD can additionally create transdisciplinary value (Jeung, Yoon, Park, & Jo, 2011; Yoo, Jang, Byun, & Park, 2019) by developing and testing multilevel (1-2-1) research models.

Theory and hypotheses

Job/task citizenship performance

Employee citizenship—representing a key asset difficult to imitate (Bolino, Turnley, & Averett, 2003)—does benefit organizations and individuals (see Williams & Anderson, 1991). Coleman and Borman (2000) settle on three dimensions of citizenship behavior: interpersonal citizenship performance, organizational citizenship performance, and job/task citizenship performance. We are particularly interested in exploring the latter dimension, that is, studying behaviors that go beyond prescribed duties and responsibilities in relation to one’s own job (LePine, Hanson, Borman, & Motowidlo, 2000). Different occupational workers—from scientists and healthcare professionals to firefighters and sales representatives—are increasingly encouraged to put an extra (discretionary) effort (Hattrup, O’Connell, & Wingate, 1998; Walsh & Tseng, 1998) and thus go “above and beyond” the call of duty (Dubinsky & Skinner, 2002; Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Also known as job conscientiousness, JCP is a motivational element of organizational citizenship behavior (OCB) that includes dedication to the job, persistence in completing job tasks, and the desire to maximize one’s own job performance by engaging in self-development activities (Coleman & Borman, 2000; LePine et al., 2000). Such behaviors (e.g. volunteering to do extra work; being enthusiastic about job duties) have been evidenced to represent a separate performance dimension from task performance (Motowidlo & Van Scotter, 1994), as well as a subdimension of the Coleman and Borman’s hierarchical integrated model of citizenship performance.

JCP may be also useful construct for demonstrating citizenship towards co-workers and organization (Mohan & Sophia, 2019). In addition, when aggregated over time and people, JCP serves to enhance the effective functioning of the organization (Allen, Barnard, Rush, & Russell, 2000; Podsakoff & MacKenzie, 1997). Therefore, HRD/M as a field of theory, research and practice (Alagaraja, 2013) has an important role in stimulating these employee endeavors, either in a decentralized manner via job design interventions (Wong, Černe, & Škerlavaj, 2017)

targeting specific work positions or by taking a centralized, systematic approach through designing appropriate organizational (cross-)training programs, policies and initiatives (Scheel, Rigotti, & Mohr, 2014).

The role of relational job design

The majority of employees can no longer complete their work independently or handle complex tasks without receiving social support (Massenberg, Spurk, & Kauffeld, 2015) and/or information sharing (Mesmer-Magnus & DeChurch, 2009) in their work environment. The changing nature of work increasingly addresses social interactions as practically relevant but still relatively neglected domain in job design research (Kilduff & Brass, 2010; Pooja, De Clercq, & Belausteguigoitia, 2016). While managers are emphasizing the importance of work relationships by designing team-based job arrangements (e.g. Morgeson & Humphrey, 2008), researchers have started to revisit relational approaches to job design by focusing their attention on social job characteristics (e.g. Humphrey et al., 2007). Specifically, Grant (2007) re-launched the idea that the relational architecture of jobs should motivate employees to invest time and energy in extra-effort activities. Furthermore, the theory of relational coordination (Hoffer Gittell, 2003) has been developed arguing that high-quality connections—in particular frequent communication and high-quality relationships—are integral to the effective coordination of highly interdependent work. The theory is focused on mutually-reinforced employee–employee relationships that strive to integrate tasks in an organization by overcoming functional/positional silos (Hoffer Gittell et al., 2010). Designing jobs by enabling them higher social interaction and interdependent tasks should promote learning and development (Parker, 2017), and provide opportunities for high-magnitude impact on beneficiaries (Grant, 2007) that will transcend into higher levels of OCB. While a certain amount of research has already demonstrated that the quality of work relationships and social

support trigger broader discretionary behaviors (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012), we need to be more specific about the role and influence of informal communication and formal task integration on employees' job/task conscientiousness – a dimension of citizenship performance different from interpersonal and organizational citizenship performance (Coleman & Borman, 2000) that is most strongly related to overall performance ratings among the OCB dimensions (Johnson, 2001).

For that reason, we decided to follow Grant's approach (2007) by examining job interaction requirements—the amount of internal and external communication necessary for handling job requirements. His work suggests that the extent to which a job involves interacting with beneficiaries (i.e., interaction with others) is an important antecedent of prosocial behavior. For instance, interaction with co-workers can be helpful for coping with work-related problems (Terry, Nielsen, & Perchard, 1993); it can make employees feel relaxed and more engaged, as well as result in their extra effort on the job. On the other hand, we also strive to extend our understanding of relational coordination by observing empirically the nature of relational coordination with external beneficiaries. As an increasing number of jobs involve interaction with the public (Grandey & Diamond, 2010), this external focus becomes a highly relevant social job attribute that increases effort, persistence, and helping behavior (see Grant, 2007).

Communication with co-workers and/or interaction outside an organization represent a social-based level of coordination which makes a job more complex and challenging, thus boosting employee motivation (Humphrey et al., 2007) and leading to increased job satisfaction (Ryan & Deci, 2001). This interactive nature of job design certainly provides employees with feedback opportunities that increase job meaningfulness (Grant, 2007) and eventually might result in higher JCP. Being in a constant information exchange with their work environment, an employee gains a better sense of his or her *raison d'être* at work, which might activate him or her to provide additional value to beneficiaries. Additionally, job interaction requirements

can generate high-quality interpersonal relationships (McClellan & Sanders, 2013), could result in fewer missed signals between employees with different areas of functional expertise (Hoffer Gittell et al., 2010), give a performance insight (Humphrey et al., 2007) and improve relational coordination that will in turn increase employee engagement (Hoffer Gittell, 2016). Such a positive view of the job interaction requirements may be most appropriately applied to situations where those interactions are more voluntary (Grandey & Diamond, 2010), ultimately resulting in larger employee discretionary work effort. Therefore, we propose the following hypothesis:

H1: Job interaction requirements are positively related to job/task citizenship performance.

Task interdependence, referring to “the connectedness between jobs such that performance of one depends on the successful performance of the other” (cf. Kiggundu, 1983, p. 146) is another important aspect in the coordination–performance link (Saavedra, Earley, & Van Dyne, 1993). It determines the task-based level of coordination that an organization has to attain in order to function. This social job characteristic should be examined separately from job interaction requirements, as it complements initial set up of a work situation that is as such favorable to positive interaction (Chen, Tang, & Wang, 2009). Previous meta-analytic findings support such an approach as they clearly demonstrated that task interdependence and interaction outside the organization (i.e., the subset of job interaction requirements) are not significantly correlated (Humphrey et al., 2007).

Highly-interdependent tasks might also provide a favorable setting for job/task conscientiousness (e.g. Pearce & Gregersen, 1991). For instance, already Smith, Organ and Near (1983) argued that reciprocal task interdependence would be a determinant of employees’ citizenship behaviors toward one another because individuals who handle interdependent tasks realize that their co-workers can retaliate. Although no support was found originally for this

relationship, several studies have later confirmed a positive relationship between task interdependence and employees' OCB (e.g. Bacharach, Powell, Bendoly, & Richey, 2006; Nielsen, Bacharach, Sundstrom, & Halfhill, 2012). Therefore, similar to job interaction requirements, we expect that the interdependent nature of tasks should act as an intrinsic motivator to behave in a citizenship manner (i.e., to provide an extra effort on the job by doing more than it is expected from them) and develop our second hypothesis accordingly:

H2: Task interdependence is positively related to job/task citizenship performance.

The moderating role of cross-training

Training is a method of learning primarily focused on the development of a skill or expertise that has the potential to improve key workplace outcomes such as in-role behavior and organizational citizenship of employees (Ghosh, Reio, & Haynes, 2012; Lee, 2015). As a primary component of the Human Resource Wheel (McLagan, 1989), training contributes to achieving core HRD purposes (i.e., improving individual/group/organizational effectiveness and performance; developing knowledge, skills and competencies; and enhancing human potential and personal growth; see Hamlin & Steward, 2011) and corresponds with other dominant themes in HRD research (i.e., work attitudes and performance, organizational development and change, leadership and career development, global and cross-culture, and workplace learning; see Seo, Lee, & Ardichvili, 2020).

On-the-job training—specialized around single jobs that usually offers a very specific knowledge or skill to be learned—is probably the most popular method of training (Naik, 2007). However, global business requirements, the competitiveness imperative and increased process improvement efforts have put upfront the need for cross-training (i.e., “a training program where each team member learns about and receives instruction regarding the roles and responsibilities of his or her teammates”, cf. Volpe, Cannon-Bowers, Salas, & Spector, 1996).

Such type of training is relational in nature; it addresses knowledge transfer and skill development at the departmental level (Galpin, Hilpirt, & Evans, 2007), thus offering employees a better understanding of their work environment. This instructional strategy may consist of a suite of interrelated techniques (e.g. positional clarification, positional modeling, and positional rotation; see Nembhard, 2007). Our focus is on the positional clarification that is used to transmit a general understanding to an employee about his or her teammate's position via lecture or discussion (Nembhard, 2007). Thus, we examine whether knowing more what others do affect performance efforts of an individual.

Cross-training—both perceived as an HRD activity (Ruona & Gibson, 2004) and a high-performance work practice of HRM (e.g. Cappelli & Neumark, 2001)—is mostly used in work settings dominated by rather simple tasks easily learned (Slomp & Molleman, 2002) and represents an important channel through which employers can both attain functional flexibility and improve worker productivity. It can serve as a mechanism for building social connections among employees (i.e. “increase social identity”, cf. Slomp & Molleman, 2002, p. 1195) who are pre-assigned to specialized and differentiated jobs. More generally, it is expected to foster relational coordination at the workplace (Hoffer Gittell et al., 2010).

Workforce cross-training has emerged as an important practice for companies across different industries that strive to integrate employees' efforts across departments and functions (Ilgen, 1999). For instance, call centers represent well-studied examples where cross-training is used to help avoid lost calls and reduce long waiting times (Nembhard, 2007). Some or all of the agents are (cross-)trained to provide two or more types of service during a work shift (e.g., the agent may be trained for sales, and also for customer service, repairs, complaints; see Iravani, Kolfal, & Van Oyen, 2007). The main role of the additional skill is to give an agent the capability (flexibility) to help another agent to serve a particular call type when needed. Likewise, a physician's office—consisting of various skill-level positions (e.g. physician, nurse

practitioner, receptionist, office manager)—handles different work activities (e.g. a variety of medical tests and exams, processing arriving patients, receiving payment, answering telephone calls, etc.). While it is clear that there are some activities that could be performed by only one skill-level position (e.g. there are some exams that only a physician can conduct), there are also many activities that can be handled by multiple skill-level positions, though perhaps with different levels of motivation and productivity (Brusco & Johns, 1998). The above examples illustrate that a cross-training practice has application to many service and manufacturing operations.

Cross-trained workers should be able to achieve higher performance (or the same performance with a smaller workforce) than specialized workers (Hopp & Van Oyen, 2004). For instance, Marks, Zaccaro and Mathieu (2000) showed that cross-training enhanced helping behavior. Similarly, Slomp and Molleman (2002) suggested that cross-training may improve the possibility of workers helping one another or sharing their workload. Higher levels of cross-training might also boost existing levels of communication, mutual understanding, and knowledge transfer among job incumbents. Hopp and Van Oyen (2004) suggested that cross-training may enable communication, which helps workers better coordinate their tasks and provides motivation to increase effort levels and cooperation. Moreover, Nembhard (2007) provided evidence that volunteers information as a facet of communication is enhanced by cross-training.

Therefore, beyond providing efficiency gains by increased labor utilization (Jordan, Inman, & Blumenfeld, 2004) or through process improvement of a production/service system (Slomp & Molleman, 2002) cross-training might also be understood as a valuable HR development path (Ruona & Gibson, 2004) intended to mitigate the risk of task partitioning and/or building a more diversified workforce with a stronger skill set. Having insights into the work performed by others, provided by cross-training, might potentially help employees to perform better their

own work, i.e. to exhibit JCP. Cross-training to acquire and develop skills not directly related to the job has been recognized as professional and career development benefit by almost half of the workforce (SHRM, 2018). Meta-analytic findings (Delise, Gorman, Brooks, Rentsch, & Steele-Johnson, 2010) provide evidence that team training (i.e., cross-training proxy) is positively related to team effectiveness (i.e., group-level proxy for individual extra effort on the job). Furthermore, better qualified workers who are trained to contribute to their organizations may be more likely to engage in and put forth extra effort beyond what is formally required (Kmec & Gorman, 2010).

On the other hand, employees who both do not interact frequently with internal and external beneficiaries, and are not cross-trained, might be less encouraged to manifest higher levels of employees' JCP. The lack of frequency of their interaction—in combination with not understanding the needs, requirements, and goals of each other, not obtained because of a lack of cross-training—should manifest in lower levels of employees' JCP. This is so because such employees—who are not connected to each other through shared knowledge of the work process—do not experience social identity with their colleagues (Chiu, Hsu, & Wang, 2006), and are thus not flexible enough in their cognition and motivation to maximize own job performance and work beyond expectations within own job/task. While in the existing literature training has been mostly examined as an initiator of job redesign or predictor of the employee outcomes, we follow recent insights provided by Daniels, Gedikli, Watson, Semkina and Vaughn (2017) and propose the moderating role of cross-training in the relationship between relational job design and discretionary behavior at work:

H3: The relationship between job interaction requirements and job/task citizenship performance is positively moderated by cross-training.

Cross-training is assumed to be beneficial for interdependent teams where the overall team performance depends on each team member's understanding of other teammates' responsibilities and expectations (Nembhard, 2007). For instance, multiskilling—either vertical (in terms of gaining an in-depth functional expertise) or horizontal (representing a cross-training mode)—does not appear to be effective when the training involves high skill complexity or low task interdependence (Dunphy & Bryant, 1996). However, functional flexibility should make a difference for employees who handle highly interdependent tasks. Namely, Weick's sense-making theory (Weick, 1993) suggests that shared understanding of the work process by those who participate in it together can connect participants from these distinct “thought-worlds” and thereby enhance coordination. Cross-training as an HRD intervention can provide added value to employees who perform interdependent tasks by giving them an additional insight into what others are doing. Even more, high levels of cross-training might narrow the gap between different jobs which might become more similar, thus diminishing job and functional boundaries (Slomp & Molleman, 2002). This is in line with Vogus (2006), who posited that high-performance work practices such as training contribute to high-quality interactions and mindfulness by signaling to employees the importance of relationships. Consequently, after the sensemaking process takes place cross-trained employees can internalize pieces of information that can help them doing their job, but also will understand the overall production process better (Park, 1991) which will encourage them to contribute a step beyond their formal job tasks. Therefore, we propose:

H4: The relationship between task interdependence and job/task citizenship performance is positively moderated by cross-training.

The examined research model with hypothesized relationships is shown in Figure 1.

Insert Figure 1 about here

Method

Sample

This multilevel HRD/M study examined organizational-level data collected from large-sized Croatian organizations (companies with more than 500 employees listed by the Croatian Chamber of Economy). In total, 43 organizations (response rate of 23.2%) from a dozen of industries (37.2% manufacturing, 14.0% transportation and storage) decided to participate in this field research. Applying a snowball sampling strategy (organizational representatives received instructions how to choose a representative set of respondents across their organizations; see Marcus, Weigelt, Hergert, Gurt, & Gelléri, 2017), we received 636 employee responses nested within organizations. Out of those, only 535 were able to be used in the analysis. These were respondents who responded to all of the items, or at least half of the items for each studied construct. For those ones who provided missing data on less than half of the items for each studied construct, maximum likelihood methods of missing data imputation were used.

Regardless of applying the aforementioned missing data strategy, we still have remained with 15.9% of non-completed responses. Despite not reaching the threshold that triggers a non-response bias analysis (“an expected unit response rate of less than 80 percent”; cf. National Research Council, 2013, p. 46), we decided to check the possibility of having response bias by comparing respondents who returned completed surveys (N=535) and non-respondents (N=101) who failed to return a completed survey. Independent samples t-test statistics confirmed non-significant differences between examined groups of respondents, both in terms of key study variables and individual demographics (see Table 1), with an exception of

employee age reporting small-to-medium effect size ($r = .31$). Nevertheless, we may conclude that non-response bias was not an issue in this study.

Insert Table 1 about here

The sectoral distribution of employee survey respondents was mainly represented by manufacturing (30.2%), electricity, gas, steam and air conditioning supply (18.7%), and transportation and storage (14.2%), thus being similar to the sectoral distribution of sampled organizations. Survey respondents had different job titles that represented two-thirds of clerical/administrative (e.g. sales representative, accountant, administrative assistant), and one third of shop-floor positions (e.g. machine worker, locksmith, storekeeper). An exploratory job design analysis (assessing core job characteristics on a five-point Likert-type agreement scale ranging from 1 – a low level to 5 – high level of a particular job attribute) showed that, on average, employee respondents' task variety is mid-to-high ($M = 4.05$, $SD = .73$); they have a certain level of task identity ($M = 3.89$, $SD = .77$) and work autonomy ($M = 3.51$, $SD = .83$), and handle less significant tasks ($M = 3.35$, $SD = .84$).

The modal number of employee respondents per organization was 14, and the average number was 14.80 ($SD = 10.02$). A majority of survey participants were male (51.5%) and had less than seven years of work experience ($M = 4.04$, $SD = 2.19$). On average they were younger than 40 years old ($M = 32.43$, $SD = 5.87$). T-test statistics has shown that there is no statistically significant difference in job design between clerical/administrative staff and manual workers (e.g. F-statistic for task interdependence = .368, $p = .818$), so both skill-level groups were aggregated into a single employee sample.

Measures

Separate survey questionnaires (organizational-level and individual-level) were developed for conducting this multisource HRD/M research. Although we used job design and performance measures previously validated for the Croatian context (see Hernaus & Mikulic, 2014; Hernaus & Poloski Vokic, 2014), a translation/back translation procedure was applied (Brislin, 1986). In addition, the questionnaires were initially self-administered by a lead author and then pre-tested on a small convenience sample of full-time employees ($n=10$). Respondents gave us a positive feedback and did not report any problems with the survey questions.

The organizational-level questionnaire was filled out mostly by C-level managers themselves (47.1%) and HR managers (31.4%), who reported about their organizational-level HRD practices. For the purpose of this study, we decided to focus on *cross-training*—an organizational-level construct that is extensively examined within the operations management literature (Cua, McKone, & Schroeder, 2001)—yet has also appeared as a topic in the strategically reactive stage of HRD evolution (see Ruona & Gibson, 2004). It consists of four items (Cronbach's alpha = .749) that generalize existing HR training practice across the organization. A sample item is “Employees are cross-trained so that they can fill in for others if necessary.” Items were scored using a Likert-type agreement scale ranging from 1 (totally disagree) to 5 (totally agree).

The individual-level questionnaire was focused on gathering self-perceived rather than objective job characteristics as there is strong evidence and common thinking that employee self-ratings are congruent with objective job features (Parker & Ohly, 2009). The individual-level measures of relational job design were taken from the Work Design Questionnaire (WDQ) developed by Morgeson and Humphrey (2006). Specifically, *job interaction requirements* were measured with a four-item scale for ‘interaction with others’ (Cronbach's alpha = .764) initially developed by Morgeson and Humphrey (2006), which was later adapted by Hernaus and Mikulic (2014) to include beneficiaries both internal and external to the organization.

Respondents were asked to indicate how often they communicate with people as a part of their job requirement. An example item is “The job involves a great deal of interaction with people outside my organization.” Items were scored using a Likert-type agreement scale ranging from 1 (totally disagree) to 5 (totally agree). *Task interdependence* was measured using two computed 5-point Likert-type agreement scales for received and initiated interdependence, which consisted of three items each (Cronbach’s alpha = .817). The sample items are “The job requires me to accomplish my job before others complete their job” and “The job activities are greatly affected by the work of other people.”

We measured *job/task citizenship performance* as our dependent variable with four items (Cronbach’s alpha = .827) taken from a three-dimensional work outcome measure of contextual performance dimension ‘extra-work effort’ proposed by Belfort and Hatrup (2003). The sample item is “I volunteer to complete extra tasks”; measurement items did not deviate from the original JCP’s interpretation (Coleman & Borman, 2000). This citizenship behavior dimension was self-reported as scholars have increasingly started to use subjective measures of work performance (e.g. Demerouti, Bakker, & Halbesleben, 2015). However, we additionally rephrased the performance construct to create supervisor-perspective ratings (Carlson, Vazire, & Furr, 2011) by asking respondents to report on a five-point Likert-type agreement scale how they think their supervisors would evaluate their work behavior.

As previously reported, to get better insights about how sampled job positions are designed, we asked respondents to self-evaluate core job characteristics originally recognized by Hackman and Oldham (1976). Examined motivational job attributes were assessed on a low-to-high (1 – 5) Likert agreement scale and demonstrated above-threshold reliability: work autonomy (e.g. “The job allows me to decide on my own how to go about doing my work”; Cronbach’s alpha = .747), task variety (e.g. “The job involves performing a variety of tasks”; Cronbach’s alpha = .770), task significance (e.g. “The work performed on the job has a

significant impact on people outside the organization”; Cronbach’s alpha = .737), and task identity (e.g. “The job is arranged so that I can do an entire piece of work from beginning to end”; Cronbach’s alpha = .842).

In addition, we controlled for industry type at the organizational level (because different sectors and industries potentially require diverse training needs; see Richardson & Hynes, 2008) and most important sociodemographic characteristics of individuals (gender and work experience, which were both indicated by prior studies that they could play a role in extra-role behavior; e.g. Becker & Kernan, 2003; Chiang & Birtch, 2008)¹.

Data analysis

The approach we followed with the analyses of our multi-level data was as follows. We first established the multi-level structure of our data by checking the aggregation statistics. Second, we calculated the descriptive statistics of our studied variables. Third, we applied confirmatory factor analysis (CFA) procedures to examine the validity of measures and data structure. Fourth, we applied the multi-level analysis by first examining the direct relationships between both individual- and organizational-level variables with the outcome variable, followed by a test of each proposed cross-level moderation in a separate model, respectively.

Despite the fact that our data were inherently multi-level, i.e. nested with two different sources for data collection at different (organizational and individual) levels, we initially checked whether rigorous multilevel sampling requirements were satisfied. Intra-class correlations for JCP as an outcome variable (ICC1 = .10 and ICC2 = .49) were above the minimum acceptable value of .05 (Hox, 2002), which further supported the use of multilevel analysis.

¹ All the results in all the conducted analyses still held with the addition of additional two demographic characteristics – age and education.

Table 2 provides the descriptive statistics and correlations among the variables analyzed in our study. Examined jobs on average were modestly enriched in terms of both task interdependence ($M = 3.59, SD = .71$) and job interaction requirements ($M = 3.44, SD = .90$), thus leading to the medium-to-high levels of JCP ($M = 3.82, SD = .72$). Interestingly, although one might raise the question of whether these social job attributes are distinctive enough, the correlation analysis clearly showed that focal predictors are weakly related ($r = .32, N = 535, p < .01$). In terms of cross-training as an organizational-level moderator, sampled organizations reported to exhibit a medium level of this particular HRD practice ($M = 3.62, SD = .68$), where the first quartile value was 3.00 and the third quartile value was 4.00.

Next, on individual-level data, we conducted a CFA with maximum likelihood estimation procedures using AMOS version 21. The expected three-factor solution (JCP, task interdependence, job interaction requirements) displayed an adequate fit with the data (Chi-square [41] = 238.789, CFI = .92, RMSEA = .087)². We tested alternative nested models to examine whether a more parsimonious model (e.g. with task interdependence and job interaction requirements' items loaded onto the same model) achieved an equivalent fit, but the Chi-square difference tests indicated that the proposed three-factor model achieved a significantly better fit.

 Insert Table 2 about here

Results

We applied random coefficient modeling using hierarchical linear modeling (HLM) software package version 7.0 (Raudenbush & Bryk, 2002) with restricted maximum likelihood

² Residuals were *not* allowed to correlate.

estimation to test our hypotheses. All variables were grand-mean centered to avoid potential issues with multicollinearity when examining the interaction terms.

We first examined Hypotheses 1 and 2, which predicted that job interaction requirements and task interdependence would be positively related to extra-role performance measure. In Model 1 (see Table 3) we entered the control variables (gender and work experience) and relational job-design characteristics (job interaction requirements and task interdependence) as level-1 predictors of the dependent variable, as well as sector as a level-2 control variable. None examined of the sociodemographic variables exhibited a significant relationship with JCP as a dependent variable.

Examining our focal relationships, job interaction requirements significantly predicted employees' extra effort on the job (Model 1; $\gamma = .08, p = .018$), thus supporting H1. In addition, task interdependence was also positively related to our dependent variable (Model 1; $\gamma = .23, p < .001$) providing support for H2.

 Insert Table 3 about here

Turning to cross-training as a level-2 predictor of employees' JCP, we tested its cross-level relationships by using job interaction requirements in Model 2, and with task interdependence in Model 3. We found a positive interaction (Model 2; interaction term coefficient = $.12, p = .004$); to test the interpretation of this significant 1-2-1 moderation, we conducted a simple slope analysis. As shown in Figure 2, job interaction requirements exhibited a significantly positive relationship when cross-training was high (gradient = $.81, t = 2.36, p = .019$), as well as when it was low (gradient = $.33, t = 2.56, p = .011$), thus supporting H3. Examining this figure, for employees with low job interaction requirements, different cross-training practices do not change the level of their JCP. However, if we increase the amount of their job interaction

requirements, we should also provide more HRD opportunities for cross-training to capitalize on relational HRM practices and thus stimulate employees to ‘go the extra mile’.

Out of the control variables, only the sector predictor exhibited a marginally-significant cross-level relationship with JCP, indicating that indeed some sectorial differences exist in terms of how much extra effort on the job employees exhibit and/or are required to perform. Gender and work experience did not exhibit a significant relationship with the outcome variable.

Insert Figure 2 about here

In the case of task interdependence, we found marginal support for the hypothesized cross-level moderation effects, as the proposed interaction terms exhibited an effect on employees’ JCP that approaches traditional significance levels (Model 3; interaction term coefficient = .10, $p = .055$). We further conducted a simple slope analysis (see Figure 3) which showed that task interdependence exhibited a significant positive relationship when cross-training was high (gradient = .82, $t = 2.39$, $p = .017$), as well as when it was low (gradient = .42, $t = 3.26$, $p = .001$) thus supporting H4. Examining this figure, employees who have standalone jobs seem to negatively respond to cross-training, as such HRD practices deteriorate their JCP. However, those ones with highly-interdependent jobs would welcome such system-wide training opportunities and respond with putting forth extra effort.

Insert Figure 3 about here

Discussion and conclusion

Theoretical implications

The present HRD/M study investigated how the interplay between relational job design (a micro HRM perspective) and cross-training practices (a macro HRD perspective) affect employees' job/task citizenship performance. The analysis of our multilevel and multisource data confirmed initial theoretical assumptions made about the role and impact of contemporary HRD and HRM relational practices. Theoretical implications of our research can be summarized and discussed in three points.

First, an important finding of our research is related to extending the existing knowledge about positive workplace outcomes of designing jobs relationally. We found that more intensive interaction with people inside and outside the organization, and highly interdependent tasks will result in higher employees' JCP. Such findings are aligned with previous research showing that relational aspects of job design frequently lead to improvements in other social and extra-role aspects of the job (Ang, Van Dyne, & Begley, 2003; Grant, 2007; Tims, Derks, & Bakker, 2016). Specifically, past evidence indicates a strong main effect of task interdependence on OCB (Comeau & Griffith, 2005). In addition, Bachrach et al.'s (2006) three-study research suggested task interdependence may affect the importance attributed to OCB by evaluators. Thus, the present study complements previous research efforts by confirming that task interdependence is positively related to JCP. In terms of job interaction requirements, to the best of our knowledge, there is no empirical evidence about how this important relational job-design attribute might influence job/task-specific OCB. Nevertheless, we acknowledge that social interactions (i.e., informal relationships with organizational peers) help give meaning to employees' work (Pooja et al., 2016), and build further upon the idea of advancing prosocial behavior by interacting with beneficiaries (Grant et al., 2007). In other words, we evidenced that increased job interaction with co-workers, customers and/or partners is positively associated with higher levels of JCP.

Second, while we know that training for teamwork is positively associated with relational coordination (Hoffer Gittell, 2016), the present study offers specific HRD/M insights into how socially-enriched jobs, supported by cross-training as a relational HRD practice, might motivate employees to achieve superior JCP. While Slomp and Molleman (2002) reported that the coordination effort required to apply additional flexibility appears to increase linearly with the amount of additional cross-training intervention, we build on their findings and follow Baker and Dutton (2007) in an argument that relational job capabilities can further be strengthened through introducing system-wide training opportunities. Our research demonstrates organizational cross-training to be a relevant contributing factor to individual JCP. When job interaction requirements are intensive or work tasks are highly interdependent, higher levels of cross-training lead to superior levels of employees' extra effort on the job. This finding is in line with training programs that encourage citizenship suggested by Bolino et al. (2003). Specifically, we likewise believe that higher levels of employees' JCP can be achieved if organizations implement system-wide cross-training designed to improve relationships among co-workers or between leaders and followers. Cross-training as an HRD practice evidently contributes to JCP; employees find this mechanism of cognitive interdependence (i.e., sharing of "task-related knowledge", cf. Cannon-Bowers & Salas, 2001, p. 196) as an opportunity to develop new perspectives and interpretations of their work positions. Having a better understanding of their work environment, these individuals are likely to increase their work effort beyond formal job requirements (Morgeson, Delaney-Klinger, & Hemingway, 2005).

Third, applying a multilevel HRD/M lens in validating the combined importance of relational job design (an individual-level HRM practice) and cross training (an organizational level HRD practice) offers a novel, holistic and much needed cross-disciplinary HRM–HRD nexus knowledge. Although different levels of analysis approach and multilevel frameworks have been theoretically recognized in the HRD literature (e.g. Garavan, McGuire, & O'Donnell,

2004; Garavan, Wang, Matthews-Smith, Nagarathnam & Lai, 2018), cross-level evidence is still largely missing. Therefore, our study—that considers factors at different (organizational/system and individual/job) levels, and their interplay across levels—contributes to setting up a promising HRD research direction. This is so because methodological implications stemming from our findings can result in a systemic all-inclusive HRD intervention informed by multilevel theory (Torraco, 2005b). Not less important, both the multidisciplinary perspective taken and multilevel approach followed throughout the paper intend to confirm HRD as being a highly-respected and standalone field of research that should be approached as a partner (and not as a subdimension) to the HRM domain.

Practical implications

The results of our study hold important implications for human resource development and management (HRD/M) practitioners. Following a historical path, the majority of employees are still predominantly required to achieve functional/departmental goals. However, corporate/organizational goals require cross-functional integration and cross-departmental collaboration more than ever at all levels. As a result, employees increasingly need to perform interdependent tasks and occupy boundary-spanning roles, communicate and coordinate their time and work efforts, and to be involved and contribute to the organization-wide activities. To meet such an agenda, HRD/M practitioners need to release the untapped (learning and development) potential of job design (Parker, 2014). By embedding (and not only) socially-enriched job attributes into the structure of employees' work, it is possible for HRD/M practitioners and line managers to yield continuous development opportunities (Parker, 2017). Moreover, by assigning relational tasks to their employees across organizational divides and chasms, companies can reach higher individual-level JCP and practice more task teamwork (LePine et al., 2000) that will eventually result in sustained human capital advantage.

Next, despite the proven benefits of cross-training, we still educate people almost exclusively from a functional (job) perspective (Ketokivi, Schroeder, & Turkulainen, 2006), i.e. focus narrowly on the acquisition of domain-specific knowledge (Alexander, 2003) to enhance on-the-job performance (Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012). What we expect to see more often are both organizational/HR systems and HRD interventions designed to foster knowledge sharing, provide mutual understanding across job positions, and develop relational capabilities of contemporary workforce. Through establishing and delivering effective cross-training programs, HRD/M practitioners might be able to boost cognitive change and eventually involve employees turning to co-workers in other jobs to explore how they are integrating concepts, extending learning, collaborating with others, and creating lifelong learning-focused working environments.

With this study, we hope to have stimulated additional awareness of the symbiotic importance of other-focused relational HR architecture and HRD-based practice of cross-training. The present work builds on the seminal work of McLagan (1989, p. 51) who stated that “problem solving and change usually require multiple and diverse actions (such as training, plus policy change, plus job redesign).” Specifically, our study evidence shows that relational job design (i.e., higher levels of job interaction requirements and task interdependence) makes a performance difference and should be taken seriously as a value-adding non-material motivation strategy. Specifically, HRD/M practitioners and line managers can achieve performance gains by relationally-enriching jobs in such manner that boosts employees’ intrinsic motivation to “go the extra mile”, that is, to encourage them to put forth extra effort on the job and volunteer for additional assignments (Brief & Motowidlo, 1986), as well as discourage them to take extra breaks or spend time in idle conversation (Smith et al., 1983).

Study limitations and future research directions

This paper has several limitations. One of the key limitations is the cross-sectional nature of the study. In order to provide better insights, the direct and cross-level effects of social job characteristics and cross-training on JCP should be determined in a longitudinal study. However, we have collected organizational and individual responses from multiple sources so there is no reason to expect common-method bias from the collected data. Nevertheless, we should also be aware of potential drawbacks related to using snowball sampling strategy for multi-source studies. Marcus et al. (2017) offer practical recommendations for future applications of such sampling recruitment technique, that has already been used for multilevel research (e.g. Conway, Rogelberg, & Pitts, 2009; Sanz-Vergel, Rodriguez-Munoz, Bakker, & Demerouti, 2012).

Second, our research was based on self-evaluations and may therefore be a subject to bias. Although there is strong evidence that (1) employee self-ratings are congruent with objective job features (Barrick, Mount, & Li, 2013), and (2) mean superior- and OCB self-ratings were consistently higher than mean subordinate ratings (Allen et al., 2000); we are more concerned with the usage of supervisor-perspective performance ratings (i.e., “how do you think your supervisor would rate your job performance?”). However, it is not that uncommon to use meta-perceptions of how people are seen by others. Substantial research shows that meta-accuracy is fairly high in general (Kenny, 1994; Levesque, 1997). Furthermore, Schoorman and Mayer (2008) found a higher level of self-supervisor rating correspondence when employees were asked to adopt their supervisor’s perspective than when making self-ratings. As findings suggest that people can make valid distinctions between how they see themselves and how others see them (Carlson et al., 2011), we decided to pursue such an approach, with a note that future research should re-examine these relationships using data that would include objective measures of job performance, or extend the argument on multi-foci (multi-stakeholder) perspective (Beer, Boselie, & Brewster, 2015).

The third set of limitations is related to the nature of a cross-occupational sample used. While such sampling strategy offers larger width, it potentially results in a greater diversity within organizations, as supported by relatively low values of ICC. We decided to narrow our focus on the low-skilled workforce (i.e., clerical/administrative staff and manual workers) as high-skilled employees (i.e., managers and professionals) may resist the idea and feel uncomfortable of becoming trained in a variety of skills they are not interested in acquiring (Abrams & Berge, 2010).

Fourth, while the theory of relational coordination as an umbrella perspective covers the relational mechanisms and tools studied in this paper (i.e., task interdependence, job interaction requirements, and cross-training) predicting JCP, the measures we used did not specifically address the extent of coordination employees exhibited with one another. It may be the case that individuals interacted with others without explicit focus on coordination. We suggest future research tackles this challenge by explicitly measuring relational coordination and tests this construct as a mediating mechanism of our moderating effects predicting JCP.

Finally, specific characteristics of the examined organizational (HRD) cross-training practices are not known. We lack fine-grained insights about how the content (e.g. job-related or non-job-related courses, programs and readings) and format (e.g. on-the-job or off-the job training; certification-based or personal professional development-focused), as well as the extent (full or partial) and scope (interpositional, interdepartmental or interdivisional) of cross-training make a difference in terms of creating a positive ground for discretionary work effort. For the moment, we can still only assume that different types of cross-training (upward, downward, and horizontal) and development activities will follow the established pathway towards OCB (Pierce & Maurer, 2009). However, we would expect that organizations—by introducing training programs that teach teamwork, enable team learning, boost cooperation or emphasize the importance of taking initiative by exceeding one's formally prescribed job duties

(Bolino et al., 2003; Watzek & Mulder, 2019)—might boost JCP of their employees. As our research design did not account for possible within-organizations' variability in training patterns, we cannot make decisive conclusions about performance trajectories of different cross-training strategies, that is, whether a particular worker is trained to perform every task, several teamwork tasks or a single specialized taskwork (see Eaton, 2011).

Future research attempts should investigate the relative efficacy of aforementioned different cross-training content-wise characteristics (e.g. taskwork training *vs.* teamwork training), the nature of content, trainer behavior and applied methods/didactics (Koopmans, Doornbos, & Eekelen, 2006; Kraiger, 2014), trainee learning strategies (Berings, Poell, & Simons, 2005) and reactions (Kim, Park, Lavelle, Kim, & Chaudhuri, 2020), as well as determine whether potential team membership size and stability (e.g., Salas, DiazGranados, Klein, Burke, & Stagl, 2008) makes a difference. Not less important, the role of cross-trained staffing (Kim & Nembhard, 2010) should be further investigated by putting eyes on a broader organizational design and HRD/M context and determining what prompted the development of cross-training (e.g. succession planning needs, performance gaps, organizational changes, regulatory demands).

Despite the aforementioned shortcomings, we believe that our HRD/M study sheds light on the importance of relational job design and cross-training for a single but highly relevant facet of organizational citizenship behavior, and therefore provides a solid foundation for future research on the intersection of HRM and HRM that would address our limitations.

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TABLE 1 Informative and t-test statistics on measuring non-response bias

Variables	Respondents		Non-respondents		Effect size	t- value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Gender	1.50	.50	1.44	.50	.12	1.27
Age	3.57	1.05	3.90	1.10	.31	-3.00**
Education	1.96	1.02	1.86	1.03	.10	.89
Job interaction requirements	3.43	.91	3.38	.82	.06	.58
Task interdependence	3.59	.70	3.61	.67	.03	-.21
Cross-training	3.60	.68	3.69	.65	.14	-1.22
Job/task citizenship performance	3.84	.72	3.63	.71	.29	1.70

** $p < .01$

TABLE 2 Descriptive statistics and correlations among individual- and organizational-level variables

	<i>M</i>	<i>SD</i>	1	2	3	4
1. Job interaction requirements	3.4364	.9045	(.76)			
2. Task interdependence	3.5882	.7095	.32**	(.82)		
3. Job/task citizenship performance	3.8234	.7198	.21**	.23**	(.86)	
4. Cross-training	3.6194	.6750	.21**	.10**	.19**	(.83)

Note: Level 1 ($n = 535$), Level 2 ($n = 43$)

Cross-level correlations (presented in the shaded area) were computed using the HLM version 7.0 software.

Cronbach's alpha coefficients are shown in parentheses on the diagonal.

** $p < .01$, * $p < .05$

TABLE 3 Hierarchical linear modeling results predicting employee job/task citizenship performance

	Job/task citizenship performance		
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept	3.44** (.18)	3.49** (.18)	3.45** (.18)
<i>Level 1</i>			
Gender	.07 (.05)	.06 (.05)	.07 (.05)
Work experience	.01 (.01)	.01 (.01)	.01 (.01)
Job interaction requirements	.08* (.04)	.09* (.03)	.08* (.03)
Task interdependence	.23** (.05)	.22** (.05)	.22 (.04)
<i>Level 2</i>			
Sector	.15 [†] (.09)	.13 (.09)	.16 [†] (.09)
Cross-training	.08 (.07)	.08 (.07)	.08 (.07)
<i>Cross-level interaction effects</i>			
Job interaction requirements × Cross-training	-	.12* (.04)	-
Task interdependence × Cross-training	-	-	.10[†] (.05)
<i>n</i> (level-2)	43	43	43
<i>n</i> (level-1)	535	535	535
Deviance	1136.90	1133.02	1134.26
Pseudo R ²	.09	.10	.10

Note: Model 1 contains only predictors; Models 2 includes an interaction term of job interaction requirements and cross-training; Model 3 includes an interaction term of task interdependence and cross-training. The significance of focal variables does not change with inclusion of additional two controls: age and education. Robust standard errors are presented next to fixed effects in parentheses. Bolded values are relevant for hypotheses testing. The deviance (-loglikelihood) for null model was 1163.07. We report Snijders and Bosker's (2012) overall pseudo R² for each model. ** $p < .01$, * $p < .05$, [†] $p < .10$

FIGURE 1 Research model

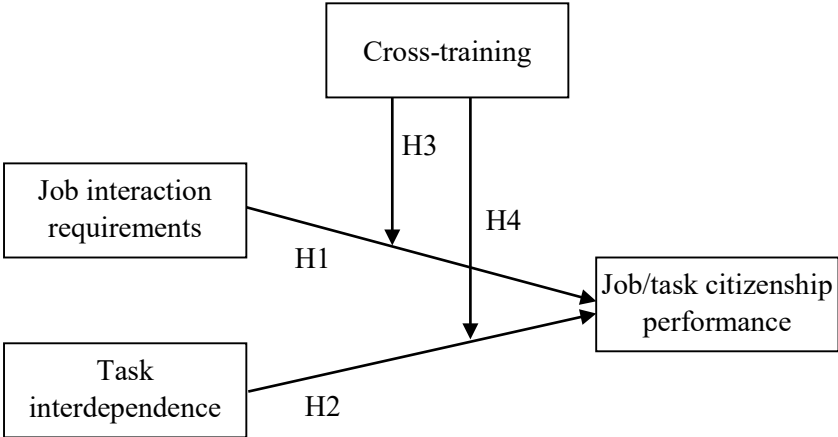


FIGURE 2 Interaction plot – Job interaction requirements x Cross-training for Job/task citizenship performance as the dependent variable

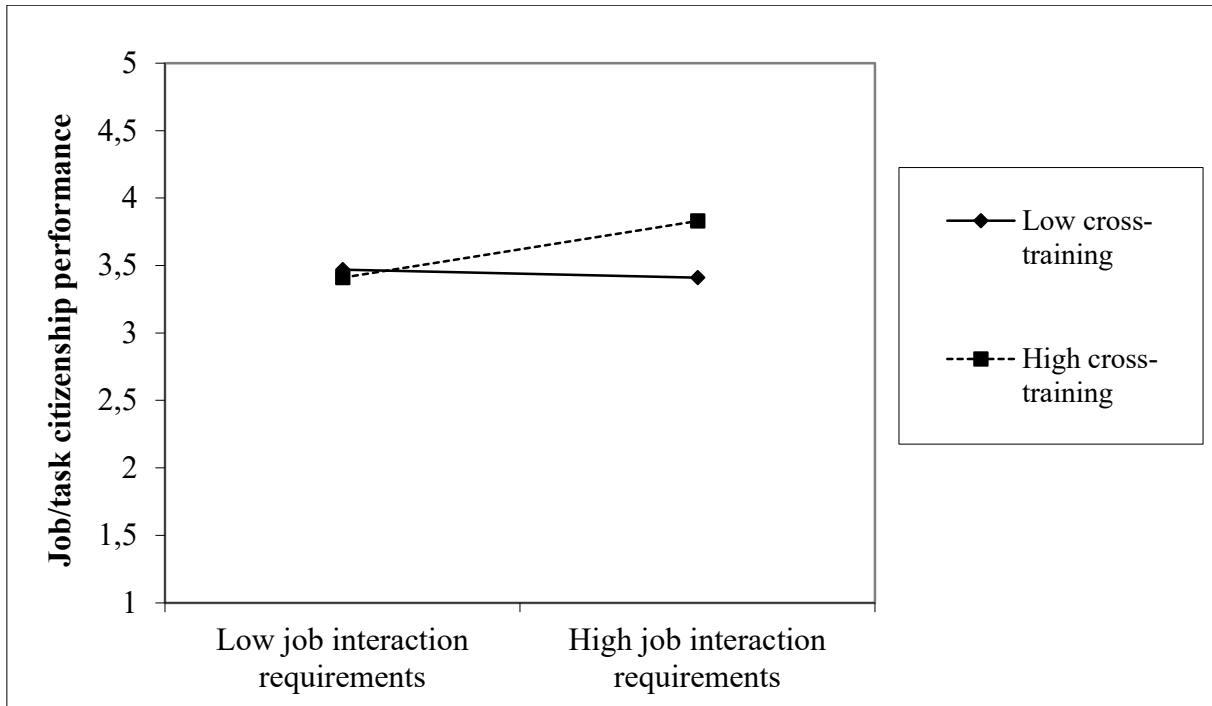


FIGURE 3 Interaction plot - Task Interdependence x Cross-training for Job/task citizenship performance as the dependent variable

