© Academy of Management Journal
2018, Vol. 61, No. 2, 499–522.
https://doi.org/10.5465/amj.2015.0604

A ROLE–RESOURCE APPROACH–AVOIDANCE MODEL OF JOB CRAFTING: A MULTIMETHOD INTEGRATION AND EXTENSION OF JOB CRAFTING THEORY

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Job crafting refers to changes to a job that workers make with the intention of improving the job for themselves. It may include structural (i.e., physical and procedural), social, and cognitive forms. We draw on two studies to develop a role–resource approach–avoidance taxonomy that integrates and extends the dominant role- and resource-based perspectives of job crafting according to characteristics of approach and avoidance. Study 1 used both qualitative and quantitative methods to analyze job crafting activities described during employee interviews to understand the nature and outcomes of specific job crafting activities. Study 2 provides quantitative support for the specific job crafting types emerging from Study 1, and further explores job crafting outcomes. Approach role crafting includes role expansion and social expansion, while avoidance role crafting includes work-role reduction. Role crafting outcomes include: increased enrichment, increased engagement, and decreased strain through changes in work role boundaries. Approach resource crafting includes work organization, adoption, and metacognition, while avoidance resource crafting includes withdrawal crafting. Resource crafting outcomes include: increased performance, increased engagement, and reduced strain through the development, acquisition, and conservation of resources. Avoidance crafting positively relates to work withdrawal and tends to have fewer relationships with positive outcomes compared to approach crafting.

Work is changing as organizational structures flatten and the responsibility for productivity improvements and stress management relies more on employees' proactivity and self-management (Grant & Parker, 2009; Stewart, Courtright, & Manz, 2011). The self-management practice of job crafting, or the changes that employees make to their jobs, helps explain how employees develop strategies to cope with work demands to increase enrichment, performance, and well-being (Tims, Bakker, & Derks, 2012; Wrzesniewski & Dutton, 2001).

Job crafting represents individually initiated job (re)design and can be explained by role- and resource-based perspectives. Research adopting the role-based perspective defines job crafting in terms of individuals' work roles and the changes they make to the boundaries of the task, as well as the relational and cognitive domains of work (e.g., Berg, Wrzesniewski, & Dutton, 2010b; Lu, Wang, Lu, Du, & Bakker, 2014; Wrzesniewski & Dutton, 2001). The resource-based perspective draws on the job demands-resources model of burnout (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), explaining job crafting as an individual proactive strategy used to seek resources and avoid demands (Tims et al., 2012; Tims, Bakker, & Derks, 2013). Both models explain important outcomes (e.g., Berg et al., 2010b; Leana, Appelbaum, & Shevchuk, 2009; Tims et al., 2012).

This paper is based on the first author's dissertation research completed in partial fulfillment of his doctoral degree at Purdue University. We would like to thank committee members Brad J. Alge, Benjamin B. Dunford, and Christine L. Jackson, as well as colleagues Deidra J. Schleicher and Maria Tims, for their helpful comments on earlier versions of the manuscript. We would also like to thank Joshua Austin, Edward R. Bruning, Marcelo Castillo, and Christopher J. Hartwell for their assistance in the development of the manuscript. We would further like to thank the University of New Brunswick's Faculty of Business Administration for their financial support for portions of the research, six anonymous organizations for their support in the collection of the data, the participants in the various stages of the research, our associate editor Riki Takeuchi, and the anonymous reviewers who helped us refine the manuscript.

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However, our current understanding of job crafting is incomplete, suggesting the need for a more comprehensive and coherent dimensional structure of job crafting that will identify new forms of job crafting and better explain how specific types of job crafting relate to unique outcomes such as teamwork, work–home conflict, process improvement, and work withdrawal. For example, recent empirical evidence has suggested that job crafting could differ according to patterns of approach and avoidance (Bipp & Demerouti, 2015).

We hope to contribute by providing a comprehensive taxonomy of job crafting activities that incorporates the role-based and resource-based theoretical perspectives, as well as the approach and avoidance themes of job crafting. We also hope to further assess the outcomes of job crafting. In this effort, we draw on two independent studies to develop and test an integrative taxonomy of job crafting. Study 1 draws on the job crafting literature and a multisource, multimethod primary dataset to develop and test an expanded taxonomy of job crafting. Through a taxonomic approach, we hope to bring parsimony, order, and explanatory power to the job crafting literature, just as this approach has done in other domains (e.g., human abilities) (Fleishman, 1984). The study will involve two distinct sets of analyses that will integrate prior theory with qualitative data to identify and explain the different types of job crafting and test hypotheses predicting outcomes of job crafting. Study 2 uses survey data to support the dimensional structure and better understand the outcomes of the job crafting activities identified in Study 1. Job crafting research has a relatively short, yet robust, history of both qualitative (e.g., Berg, Grant, & Johnson 2010a; Berg et al., 2010b) and quantitative research (e.g., Leana et al., 2009; Tims et al., 2012). However, the use of particular methods might have contributed to a misalignment between perspectives. The role-based perspective has been largely developed through qualitative research, while the resource-based perspective has relied almost exclusively on quantitative methodologies. Our use of complementary methods should help integrate the two perspectives on job crafting to facilitate more comprehensive (and nuanced) job crafting theory.

DEVELOPING A TAXONOMY OF JOB CRAFTING

A review of the job crafting literature and 42 preliminary pilot interviews[1] were used to understand the definition and conceptualization of job crafting, as well as refine our methodological protocol. Integrating prior definitions of job crafting (e.g., Tims et al., 2012; Wrzesniewski & Dutton, 2001), we define job crafting as, *the changes to a job that workers make with the intention of improving the job for themselves*. These changes can take structural (i.e., physical and procedural), social, and cognitive forms. Job crafting activities have important defining characteristics. First, they are self-targeted and intended to benefit the individual crafter (Tims et al., 2012; Wrzesniewski & Dutton, 2001). Second, they are volitional and represent conscious and intentional changes made to one's work (Tims et al., 2012; Wrzesniewski & Dutton, 2001). Third, job crafting relates to significant and noticeable deviations from the precrafted job and usually represents a meaningful change in task and social activities (e.g., Berg et al., 2010b) or behavioral and cognitive processes (e.g., Berg et al., 2010b; Leana et al., 2009). Fourth, job crafting is characterized by permanent or semipermanent changes made to the job, as opposed to one-time or temporary changes. Fifth, job crafting occurs within the work role, distinguishing it from crafting leisure time (Berg et al., 2010a). Finally, it must occur within a job with a clear description and specified tasks, as per an organizational job description or occupational database (e.g., O*NET, an archive of job descriptions) (Peterson et al., 2001). This distinguishes job crafting from more general behaviors engaged in by people working in self-created jobs, such as self-employed food truck owners, consultants, or other entrepreneurial activities.

Role and Resource Crafting

Job crafting represents employee-initiated job design (e.g., Grant & Parker, 2009). Comprehensive perspectives on job design have considered multiple functions, such as work specialization and simplification, work motivation and enrichment, social and contextual factors, human perceptual motor requirements, and physical demands (Campion, 1988; Campion & Thayer, 1985; Humphrey, Nahrgang, & Morgeson, 2007). Job design has a variety of outcomes, with categories including satisfaction and enrichment, efficiency and performance (including error reduction), and reduced strain and improved engagement.

Employee-centric perspectives on job design (i.e., job crafting) have evolved to consider two overlapping, yet distinct, theoretical perspectives: a role-based perspective that explains how employees enrich their intrinsic need–supply fit with their

[1] Details of the pilot research available upon request from the authors.

work, and a resource-based perspective that explains how individuals seek resources and manage their demands. The role-based perspective has developed to focus on the motivational perspectives of job design (e.g., Berg et al., 2010a; Sturges, 2012; Wrzesniewski & Dutton, 2001). The resource-based perspective draws primarily from the job design literature focused on resource management (e.g., Tims et al., 2012, 2013). Research has suggested that both role and resource crafting relate to general outcomes of enrichment, performance, strain, and engagement (Leana et al., 2009; Tims et al., 2012, 2013; Wrzesniewski & Dutton, 2001). However, there are also fundamental differences between the two perspectives that relate to the focus on how job content is changed (e.g., changing boundaries versus resources or demands) and a focus on enrichment versus efficiency.

Role crafting. Role crafting involves changing one's role in terms of what one does and who one interacts with at work to improve intrinsic benefits. The original perspective of job crafting proposed by Wrzesniewski and Dutton (2001) takes a motivational (and social) perspective of work design to explain how workers continuously shape the boundaries in their task and relational work domains to improve the meaning and identification they receive from their work. This form of job crafting specifically involves people making physical and cognitive changes to the boundaries of the tasks and relationships involved in their work. It represents an employee-centric adaptation of Campion's (Campion, 1988; Campion & Thayer, 1985) motivational function of job design given its focus on meaning, identification, and work enrichment, as well as the social work characteristics of motivational job design (Morgeson & Humphrey, 2006). This role-based model of job crafting has been supported across different jobs and hierarchical levels (Berg et al., 2010b). It has also been extended to explain how individuals craft a balance between their work and home roles (Sturges, 2012), fulfill the intrinsic needs neglected by unanswered career motives (Berg et al., 2010a), and increase their needs–supply fit (Lu et al., 2014). This perspective considers job crafting as a dynamic process of continual modification (Wrzesniewski & Dutton, 2001), and involves activities of both expansion and reduction (Berg et al., 2010a, 2010b; Sturges, 2012; Wrzesniewski & Dutton, 2001).

Resource crafting. The resource-based perspective explains job crafting through the management of work demands and strain reduction (Nielsen & Abildgaard, 2012; Tims et al., 2012). This form of job crafting involves changing the structural components of one's job by acquiring new resources or reconfiguring the resources within one's job to reduce job demands and their negative implications. Tims and colleagues (2012) extended the job demands–resource model of burnout (Demerouti et al., 2001) to present a model of job crafting that explains different ways in which individuals can change their jobs to increase resources and reduce demands. These changes are goal directed, engaged to increase job resources to minimize person–job misfit, involve increasing job resources and reducing job demands, and ultimately improve the employee's work experience and performance. Resource crafting is more focused on external goals than role crafting, as it involves acquiring resources and reducing demands to help people meet their work requirements. It can also be considered as an employee-focused mechanistic (i.e., efficiency-oriented) approach to managing job demands (Campion & Thayer, 1985).

Approach and avoidance themes of job crafting. Theory and research has also suggested the presence of two general themes of job crafting activities based on motivations of approach or avoidance (e.g., Bipp & Demerouti, 2015; Elliot, 1999; Lazarus & Folkman, 1984). In describing this, Elliot (1999) succinctly stated that human behavior can be motivated by the possibility of obtaining desirable goals or the threat of negative outcomes. Principles of approach and avoidance are also manifest in other, broader theories. Transactive theories assert that individuals cope with potential threats in both approach and avoidant manners (Lazarus & Folkman, 1984), suggesting that individuals can confront demands as challenges or avoid them as threats (e.g., LePine, Podsakoff, & LePine, 2005). Recent job crafting discussions have also considered that job crafting can take forms that align with concepts of approach and avoidance (e.g., Berg et al., 2010b; Bipp & Demerouti, 2015; Tims et al., 2012). We propose that job crafting can take approach and avoidance forms.

Approach crafting activities are active, effortful, motivated, and directed toward problem-focused and improvement-based goals. They likely result from the interpretation and acceptance of challenge stressors, attempts to increase resources, or a desire for improved work experience. The concept of approach crafting aligns with the increasing resources and challenging job demands of job crafting dimensions (Bipp & Demerouti, 2015; Petrou, Demerouti, & Schaufeli, 2015; Tims et al., 2012) and direct problem focused coping (Lazarus & Folkman, 1984). *Avoidance crafting* serves the purpose of

evading, reducing, or eliminating part of one's work. It relates to avoidant and prevention-oriented traits (Bipp & Demerouti, 2015; Petrou et al., 2015) and reflects reducing hindering and social demands (Nielsen & Abildgaard, 2012; Tims et al., 2012), reduction in one's task and social boundaries at work (Wrzesniewski & Dutton, 2001), and systematic forms of work withdrawal (Hanisch & Hulin, 1990).

A Role–Resource Approach–Avoidance Perspective of Job Crafting

There are clear differences and unique contributions offered by the role and resource perspectives. Role crafting is specifically concerned with the task and social boundaries of work, while resource crafting involves modifying work to increase resources (including resource value) and decrease demands. Role crafting is also much more a process of increasing personal enrichment, while resource crafting is predominantly focused on increasing efficiency through resource acquisition and conservation, as well as reducing strain derived from unmanageable work demands. Furthermore, role crafting is concerned with personal need-based motives (Wrzesniewski & Dutton, 2001), while resource crafting incorporates personal work goals that can be more closely aligned with externally imposed demands (Tims et al., 2012).

The role-based and resource-based perspectives have developed in a relatively parallel manner, yet there is some conceptual overlap. Both forms of job crafting are likely to involve both expansion (i.e., approach crafting) and reduction (i.e., avoidance crafting), but each involves different types of changes. For example, avoidance crafting from the role-based perspective likely involves formal reduction in one's work role. Avoidance crafting from the resource-based perspective likely involves avoiding non-role-based demands, such as annoying coworkers, customers, or environmental conditions, that can inefficiently consume resources. We propose that the distinctions between role and resource crafting, as well as approach and avoidance crafting, will interact to create a 2×2 categorization of job crafting that can organize specific job crafting activities and aid in outcome prediction. The result is a role–resource approach–avoidance model of job crafting comprised of four general categories: *approach role crafting*, *approach resource crafting*, *avoidance role crafting*, and *avoidance resource crafting*. The detailed content of these categories will be identified in Study 1.

Outcomes of Job Crafting

We expect considerable differentiation in the outcomes of the four general types of job crafting according to distinctions of role–resource and approach–avoidance job crafting. Role crafting will primarily serve to improve an individual's fit with their work and subsequent work enrichment (Lu et al., 2014; Wrzesniewski & Dutton, 2001), while resource crafting will concurrently increase resources and reduce demands to increase engagement, work efficiency, and performance (Tims et al., 2012, 2013). We attempt to identify the full range of generalized outcome categories for job crafting and make predictions for each.

Enrichment involves improving the intrinsic value of a job and is a central outcome of role crafting (Wrzesniewski & Dutton, 2001). Role crafting is likely to improve the crafter's work experience through increases in personally relevant task and social characteristics, enriching their work through idiosyncratic modifications to align their tasks and social relationships with their personal needs, motives, and identities (Wrzesniewski & Dutton, 2001). It could also involve changing task and social boundaries to increase one's control over the work. By expanding the task boundaries of the job, an individual will likely increase the control, participatory decision making, and possible rewards involved in their work. Increasing the social boundaries of the job could also increase valuable social ties that can provide beneficial sources of feedback and support, as well as other social benefits (Humphrey et al., 2007).

Hypothesis 1. Role crafting will positively relate to enrichment.

Both role and resource crafting are expected to positively relate to engagement. Role crafting is expected to improve the engaging elements of one's work characteristics through changes in work design (Humphrey et al., 2007; Wrzesniewski & Dutton, 2001). Resource crafting is expected to benefit engagement through the reduction of distracting hindrances that waste one's resources and the acquisition and development of resources that give one control and assist focus. Individuals will use resource crafting to manage their work demands and their capacity to be engaged in and focused on their work. This resource management will involve systematic attempts to develop structural resources within their job and work procedures through processes of acquisition and modification (Tims et al.,

2012). These activities will also involve the reduction of hindering task and social demands (Nielsen & Abildgaard, 2012; Tims et al., 2012). Generally, resource crafting will involve attempts to maximize the resources available to one's job while minimizing the systematic demands associated with the job by conserving resources to optimize focus, decrease boredom (van Hooff & van Hooft, 2014), and increase engagement (Tims et al., 2012, 2013).

Hypothesis 2. Role and resource crafting will both positively relate to engagement.

We expect that resource crafting will positively relate to performance. Resource crafting involves processes engaged to manage work demands through the reduction of demands via task completion, through the acquisition of resources to help one meet demands in a more efficient and effective way, or the conservation of resources (Tims et al., 2012). Efficient and effective work is likely to improve performance by enabling better resource accumulation, demand reduction, and resource conservation to allow enhanced cognitive or emotional resource investment into one's work. Individuals will also use resource crafting to acquire resources such as feedback, job control, and support to directly improve performance (Tims et al., 2012), which could benefit performance over a more aggregated time period (Demerouti et al., 2015). Role crafting is unlikely to be definitively positively or negatively related to performance, as it primarily emphasizes idiosyncratic and personal needs of the job crafter (Wrzesniewski & Dutton, 2001), and these needs and motives could conflict with one's work requirements.

Hypothesis 3. Resource crafting will positively relate to performance.

Both role and resource crafting are expected to reduce the aversive work demands that cause strain. Strain represents reactions to workplace demands that threaten one's well-being (Cooper, Dewe, & O'Driscoll, 2001). Role crafting is likely to reduce strain through the inclusion of desirable job content that increases fit, or the reduction of aversive characteristics or troubling tasks associated with job misfit, such as an unmanageable workload (Wrzesniewski & Dutton, 2001), unnecessary activities (Berg et al., 2010b), or inefficient time and energy usages that could impact different life domains (Sturges, 2012). Role crafting could also increase one's control over a situation or integrate healthy activity into one's routines. Resource crafting involves increasing resources or integrating them into the job while also conserving resources through a reduction in demands (Nielsen & Abildgaard, 2012; Tims et al., 2012). Increasing resources through the creation of personal control, rewards, and job-derived feedback from the job into one's work could help individuals better manage their work demands and reduce their strain (Demerouti et al., 2001, 2015).

Hypothesis 4. Role and resource crafting will negatively relate to strain.

We expect that avoidance job crafting will positively relate to work withdrawal. Work withdrawal involves distancing oneself from the work or an element of the work and includes aspects such as psychological withdrawal, bored behavior, lateness, absenteeism, turnover intentions, and turnover (Hanisch & Hulin, 1990; Hirschman, 1970; Johns, 2001; van Hooff & van Hooft, 2014). Individuals can respond to dissatisfaction by neglecting or exiting the situation (Hirschman, 1970; Johns, 2001), and minor forms of psychological and behavioral withdrawal are suggested to escalate in severity (Harrison, Newman, & Roth, 2006; Johns, 2001). Given the general reduction and avoidant focus of avoidance crafting (Bipp & Demerouti, 2015; Tims et al., 2012; Wrzesniewski & Dutton, 2001), we expect that avoidance crafting will positively relate to minor forms of (psychological) withdrawal, such as bored behavior and work neglect, as individuals avoid undesirable aspects of the job. It is also likely to predict more severe forms of work withdrawal, such as turnover and turnover intentions, given the evidence of progression from minor to major forms of work withdrawal (Harrison, Newman, & Roth, 2006; Johns, 2001) as hindrances are ineffectively reduced (Tims et al., 2013).

Hypothesis 5. Avoidance crafting will positively relate to work withdrawal for both role and resource forms of avoidance crafting.

For other outcomes, approach and avoidance crafting may operate in different ways for role and resource crafting. Approach role crafting is expected to increase one's fit with the job through expansion, while avoidance resource crafting will decrease one's misfit with the job through reduction of aversive work characteristics (Wrzesniewski & Dutton, 2001). Approach resource crafting will increase resources and avoidance resource crafting will decrease demands in order to increase efficiency and benefit performance. However, research on coping and withdrawal has suggested that approach-oriented problem-focused coping (or voice) can

address a problematic source of stress (Lazarus & Folkman, 1984) or dissatisfaction (Hirschman, 1970) more directly and effectively compared to avoidant strategies. The more proximal parallels in resource crafting have also suggested that avoidance crafting might be a less effective mode of enrichment and engagement compared to approach crafting (Tims et al., 2012, 2013). We interpret these findings to apply to both role and resource crafting. We expect that for outcomes other than work withdrawal, approach crafting will be more consistently related to positive outcomes than will avoidance crafting for a given type of job crafting.

Hypothesis 6. Approach forms of a given type of job crafting will be more effective than avoidance forms of the same type of job crafting for outcomes of strain reduction, enrichment, engagement, and performance.

In the following studies, Hypotheses 1, 3, and 4 are tested in Study 1 to establish whether the occurrence of certain types of job crafting is related to outcomes of enrichment, strain, and performance. Hypotheses 1, 2, and 5 are then tested in Study 2 to evaluate the relationship between the frequency of specific job crafting activities and psychological outcomes of enrichment, engagement, and work withdrawal. Hypothesis 6 is evaluated by comparing the relationships that approach and avoidance crafting have with outcomes across both studies.

STUDY 1 METHODS

Participants and Procedures

We recruited a sample of workers from a wide range of jobs and work contexts. To collect the data, the first author conducted and recorded semistructured interviews separately with employees and their supervisors, documented via audio recordings and field notes.[2] The dataset involved 246 interviews that included 50 supervisors, 196 employees, and 433 descriptions of job crafting activities from employees working in five organizations, six industries, and 58 jobs. In total, 206 in-person and 40 telephone interviews were conducted (employee interviews averaged 43.12 min.; supervisor interviews averaged 22.23 min.). A diverse sample was used to make the taxonomy more representative of a variety of jobs because job crafting likely differs across jobs (Nielsen & Abildgaard, 2012; Wrzesniewski & Dutton, 2001). Jobs represent all the major occupational categories including managerial, professional, craft, sales, clerical, skilled, semi-skilled, and labor. The sample represented the major sectors of manufacturing, service, agriculture, education, artistic, and technology industries. Matched data came from interviews with employees, supervisors, and the O*NET database for 181 of the 196 employees. Participants (56% female with an average of 12 years of organizational tenure) were recruited according to whether they worked for participating supervisors. The final matched sample used for tests of relationships between job crafting and outcomes was 158 employees working for 35 supervisors. Power ranged between 82 and 86% to detect $r = .20$ (two-tailed) across analyses using $p < .05$, and between 90 and 92% to detect $r = .10$ (two-tailed) using $p < .10$ (Cohen, 1988).

Measures

Job crafting. We presented participants with the definition and defining characteristics of job crafting. The job crafting concept was clarified until participants clearly understood its meaning. Because job crafting can have both positive and negative implications (Demerouti, Bakker, & Halbesleben, 2015; Wrzesniewski & Dutton, 2001), participants were asked to provide at least one example of job crafting they had initiated to "improve their efficiency and effectiveness" and one example of job crafting initiated to "reduce their stress." The range of job crafting examples provided suggest that respondents were not constrained or predisposed by these instructions, other than encouraging both positive and negative examples. Due to our focus on the dimensional structure of job crafting activities, we wanted to ensure that the activities captured were actual examples of job crafting according to the definition presented. As a check on the validity of employees' responses, the interviewer assessed the compliance of each example with the six definitional characteristics of general job crafting during the interview via checklist, and asked follow-up probes as needed. Compliance with the definitional characteristics was also checked via post hoc ratings made independently by the first author and a second trained coder based on the interview transcript (98% intercoder agreement).

Domain and taxonomic coding was used to categorize job crafting activities, whereby similar examples were identified and labeled according to underlying domains that parsimoniously and completely described all instances of job crafting

[2] Supplemental methodological details are available from the authors.

(Saldana, 2013). The first author reviewed the field notes and interview transcripts to create a list of simple themes. He then organized them according to higher-level domains until all examples of job crafting were included in a theme and all themes were included in an appropriate domain. Domains were revised until they were inclusive of all verified examples of job crafting. In Phase 2, the author and a trained coder reassigned job crafting activities to a domain to back-translate the coding using a standardized protocol (95% intercoder agreement). This phase also involved both coders assessing each example's compliance with the six definitional characteristics. Simultaneous coding into multiple domains was allowed (Miles, Huberman, & Saldana, 2014) due to possible correlations between dimensions (Tims et al., 2012). The seven specific types (domains) of job crafting were represented by dichotomous codes in the quantitative analyses.

Enrichment. Enrichment was assessed as work meaning and job satisfaction. *Work meaning* was measured with three items (α = .73). Two were adapted from Spreitzer (1995) and one, more extreme, item was added to reduce the impact of item social desirability and range restriction that could come from participants wanting to present a more positive and professional image of themselves. *Job satisfaction* was assessed using one item from Cammann, Fichman, Jenkins, and Klesh (1983). A single item for general job satisfaction was appropriate based on its simplicity and comprehensibility (Wanous, Reichers, & Hudy, 1997) and helped avoid participant fatigue. Each measure used five-point agreement scales (1 = "Strongly disagree" to 5 = "Strongly agree").

Performance. Data were collected using methods employed in previous interview-based job design research using supervisor rank data (Campion & Thayer, 1985). Supervisors ranked employees on aspects of *efficiency*, *teamwork*, and *work improvements* using three single-item rank measures. Supervisor rankings were used to gather data from a valid source independent of employee self-reports. When supervisors had over 10 employees, they were given the option of only ranking the top 10 employees for each category to save time. Employees not in the top 10 were given the rank of 10, the lowest score possible. Scores were standardized by mean centering the variables and adjusting the standard deviation to 1 to account for the different group sizes. They were also reversed so higher values would reflect higher rankings.

Strain. Strain was captured by assessing supervisor observed strain and work–home conflict. Supervisors ranked employees on their "level of stress" to obtain a measure of *observed strain,* which was measured in the same manner as performance. *Work–home conflict* was self-rated by employees using five items (α = .87) taken from a scale by Bacharach, Bamberger, and Conley (1991). Items used a five-point frequency scale ranging from "never" to "extremely often."

Controls. We evaluated the incremental prediction of job crafting on its outcomes, controlling for possible alternative explanations derived from personal, environmental, and methodological variables. Gender (Male = 1, Female = 2) was controlled for in all analyses as it had significant relationships with both job crafting and its outcomes. Organizational tenure, captured as a continuous measure of employee-reported years working in the organization, was controlled for in the analyses because experience has been shown to have conditional effects on the outcomes of job crafting (i.e., job performance) (Leana et al., 2009). We controlled for whether interviews were conducted face-to-face or over the telephone and the number of employees ranked in group-level models predicting supervisor ranked outcomes because members of groups with 10 or more people were more likely to get the lowest possible scores.

We also controlled for a range of environmental variables that may create a situational context that influences job crafting and its outcomes (Wrzesniewski & Dutton, 2001). Job design measures of *job autonomy* and *job complexity* were based on the job information in O*NET. Jobs were matched with O*NET data by the first author and a trained coder according to their job title (90% intercoder agreement). Four items each were used to measure job autonomy (α = .81) and job complexity (α = .94), selected from Morgeson and Humphrey (2006). Items were scaled from 0–100 with regard to the amount of the job design dimension for the job. Group opportunity and goals were rated by the interviewer based on supervisors' responses to open-ended questions using anchored rating scales as interviews were being conducted. *Group opportunity* was assessed by five questions (α = .89) that captured scheduling autonomy, decision-making autonomy, work methods autonomy, monitoring, and overall opportunity to job craft. *Group goals* were assessed using two questions (α = .76) addressing goals to innovate and whether workers were compensated for innovation. Proactive personality

was assessed using four items ($\alpha = .67$) based on Bateman and Crant's (1993) measure using a five-point scale (1 = "strongly disagree" to 5 = "strongly agree").

We assessed and controlled for participants' job crafting motives because prior theory and our pilot research suggested that workers' orientations toward job crafting and job crafting outcomes are at least partially driven by the specific motives one has to make a change to their job (Wrzesniewski & Dutton, 2001). To assess *job crafting motives*, employees presented and described up to three of their most important work-related motives in response to the open-ended question, "Could you describe up to three things you most want to get out of your work?" A multiphase coding system similar to that used to understand the structure of job crafting was employed. The pilot research suggested that individuals had job crafting motives that generally related to performance, development, and personal well-being. Coding began with these three general categories and the procedures accounted for unexpected insights (Miles et al., 2014; Saldana, 2013). All motives were coded into the three established categories by the first author. The first author and a trained coder then independently assigned motives to the general categories via 14 emergent subcategories. There was strong agreement for general (95%) and specific (sub)categories (90%). Disagreements were resolved through discussion (Miles et al., 2014). We assessed one's prevalence for each type of motive to quantify job crafting motives. Scores counted the number of goals of a given type and ranged from 0 (lowest) to 4 (highest) and were then divided by 4 to represent a proportion of the total goals.

STUDY 1 RESULTS

Qualitative Descriptive Results

Results revealed that role and resource crafting have seven specific domains. Table 1 lists the domains and sample quotations to describe their content.[3] The results suggested that the general categories of role and resource crafting, as well as approach and avoidance crafting, explained differences in the domains of job crafting (see Figure 1). Overall, 62% of employees ($n = 121$) described engaging in role crafting and 72% of employees ($n = 142$) described engaging in resource crafting. A total of 60% of employees ($n = 119$) only presented examples of approach job crafting, while 37% ($n = 74$) presented at least one example of approach job crafting and one example of avoidance job crafting. A total of 3% ($n = 5$) only presented examples of avoidance job crafting.

The current taxonomy meets the requirements that differentiate a taxonomy from a simple list or a typology (Fleishman, 1984). First, the taxonomy attempts to be an exhaustive description of the range of types of job crafting. Second, each domain that emerged from the analysis was conceptually independent from the other domains. Finally, each domain that emerged also had a substantial theoretical grounding within the job crafting literature. All domains of job crafting involve one or more of the dimensions of job crafting from the role-based perspective (e.g., Wrzesniewski & Dutton, 2001) or the resource-based perspective (e.g., Tims et al., 2012). Furthermore, new specific forms of job crafting emerged from these analyses to extend our understanding of job crafting domains. All themes that emerged complied with the defining characteristics of general job crafting. Three domains align with role crafting and four domains align with resource crafting.

Approach role crafting—Work role expansion. Work role expansion involves the self-initiated enlargement of the incumbent's work role to include elements of work and related activities not originally in the formal job description. It represents a form of role crafting as it involves altering the task boundaries around one's work to modify one's role. It can also involve the behavioral integration of one's personal and work domains, as some workers expanded their work activities to improve their well-being. This form of job crafting specifically addresses the elements of changing task boundaries and increasing challenges (Tims et al., 2012; Wrzesniewski & Dutton, 2001). Assuming that a given behavior complies with the definitional characteristics of job crafting, work role expansion can also be reflected in concepts of general proactivity (e.g., Morrison & Phelps, 1999), role expansion (Grant & Hofmann, 2011), or proactive manifestations of attempts to enlarge and enrich their jobs (e.g., Campion & McClelland, 1993). A total of 61 examples (14% of the total sample) were provided.

Approach role crafting—Social expansion. Social expansion occurs within the social domain of work and involves changing the scope, number, and

[3] Comprehensive descriptions of job crafting categories, specific themes of job crafting examples, and descriptive results are available from the authors.

TABLE 1
Study 1 Taxonomy of Job Crafting

Job Crafting	Definitions and Sample Quotations
Approach Role Crafting	
Work Role Expansion	**Definition:** Involves the self-initiated enlargement of the incumbent's work role to include elements of work and related activities not originally in the formal job description. **Illustrative Quotations:** During the day I would have frequent interruptions. They are good interruptions. They are work related. They are from my peers and people who work for me, either asking questions, clarification, or working on a project together . . . I feel like I can't get my own work done as the day goes on . . . So what I've done is I've actually started doing some of my tasks outside of regular work hours . . . I had it set up a while ago so that I can access my e-mail from home and so there have been occasions where rather than stress out about getting e-mails during the day I just go home and take an hour to do my e-mails. (Cultural Organization Management) I have taken the time to memorize my members' names. First and last names. I have kind of a good memory for stuff like that, but realized that it made me a more efficient service representative . . . Makes them feel much more comfortable and it allows me to be more successful. (Animal Nutrition Company)
Social Expansion	**Definition:** Occurs within the social domain of work and involves the proactive use of social resources or contribution of resources to another organizational member or collective. **Illustrative Quotations:** A big part of my job is communicating work as instructions and forming relationships. You need to provide those instructions too in learning how to communicate. Finding a way to relate to them [employees] is sometimes not always just in words, it's done by getting to know them. You know? Knowing their history, sometimes dressing down. Like one of the things I've done is wear a shop floor shirt . . . I'm just a little bit more casual. I've maintained that over the years because when I first started, I did not wear fancy clothes, but I also found that people who wear less are easier to talk to. They were more open and they disclosed things to me. (Aerospace Manufacturing) The best way to deal with stress is to just kind of laugh it off. In my opinion. You know, I'm probably the wildest loudest one here as far as that goes . . . Laughing makes me feel better. Telling a joke or something funny. Look on the brighter side of things . . . Involve other people. We are a very close group. (Credit Union)
Avoidance Role Crafting	
Work Role Reduction	**Definition:** Consciously, proactively, and systematically reducing the work role, work requirements, effort expenditures, or task accountability. **Illustrative Quotations:** Because of how repetitive my job [has been] from day one, I've learned how to handle operations. I always look for better ways to improve them and cut time back without having a detriment to the team or my surroundings . . . I found ways to have shortcuts in the formulas that have not damaged any product . . . they have been changed in a manner to help time constraints . . . Researching them I found that three or four of the steps can easily be removed and we still have the same effectiveness in the formula without using the maximum time to get it accomplished. (Animal Nutrition Company) I am given a lot of little searches I have to do like land titles and car registration and things like that. I push it down onto an assistant we have here . . . This work kind of falls on being able to delegate down to the assistant. (Credit Union)

Notes: $n = 196$ employees.

nature of social relationships within one's work. It represents a form of role crafting as it involves actively changing the boundaries around social activity through expansion and can also involve workers taking on self-adopted team roles or changing how they interact with others. It represents changes to the social characteristics of work (e.g., Berg et al., 2010b; Tims et al., 2012; Wrzesniewski & Dutton, 2001) and collaborative crafting (e.g., Leana et al., 2009). Social expansion can also involve activities of systematic feedback seeking (Ashford, 1986), or approach elements of relational boundary management (Trefalt, 2013) when the defining characteristics of job crafting are met. A total of 55 examples (13% of the total sample) were provided.

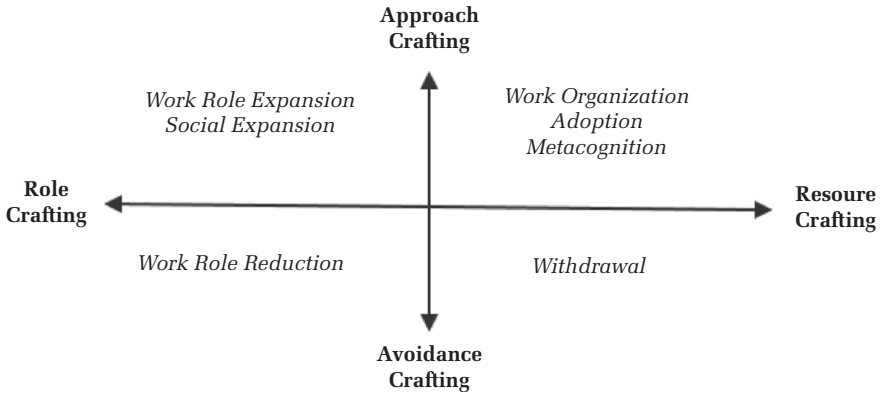
Avoidance role crafting—Work role reduction. Work role reduction involves consciously, proactively, and systematically reducing the work role, work requirements, effort expenditures, or task accountability. It is a form of role crafting as it involves the active and systematic reduction of one's formal work role. This dimension captures active reductions in tasks, responsibilities, or interactions (Berg et al., 2010b; Wrzesniewski & Dutton, 2001) and distributing responsibility (e.g., Leana et al., 2009). If a given activity complies with the

TABLE 1 (CONTINUED)
Study 1 Taxonomy of Job Crafting

Job Crafting	Definitions and Sample Quotations
Approach Resource Crafting	
Work Organization	**Definition:** The active design of systems and strategies to organize the tangible elements of work, which can involve managing behavior or physical surroundings. **Illustrative Quotations:** Just being prepared and going from one job to the next job to make sure I have all my tooling laid out in front of me and everything is organized. That's always a big thing . . . being organized. I try to be organized each time with the tools and the procedures that I have. (Aerospace Manufacturing) I always try to set deadlines on myself at least a week in advance before the actual deadline ends. That way I'm not having to pay for putting work on hold. It hurts my personal life. I used to do that. I used to be kind of, I wouldn't say totally unorganized, but I used to procrastinate a lot. So I kind of tried to change in every aspect of my life, especially work . . . I do a presentation coming up on Monday morning and the deadline for the delay just passed Monday morning on the fifth. And now I've had kind of like a whole week to kind of just review and prepare and start planning the last slides . . . Before doing this, I would work on it and worry about it all weekend. (Animal Nutrition Company)
Adoption	**Definition:** The active and goal-directed use of technology and other sources of knowledge to alter the job and enhance a work process. **Illustrative Quotations:** I learned Doodle, how to work with Doodle. Doodle really helped a lot because I'm dealing with other people all over campus so it's kind of like instead of sending e-mail to 22 faculty members in the department I can send them a link and they can go and answer all the questions that they need to do on the survey instead . . . it's just making life easier . . . if you are missing parts it's easier to go back and get those parts instead of trying to get the whole thing. (Higher Education Administration) Recently, I went online to look for software that would help me organize myself and organize how I track information, and follow up and organize tasks and things like that along the way. So no one asked me to do that. I just wanted to find a way to be more efficient. I did find some software . . . One of my favorites is called Evernote. It is a program that is set up for you to track notetaking and one of the reasons I really like it is that it is easy to access on any computer. So it's an online software program and it is easy to access on Macs or PCs which I have access to. (Cultural Organization Management)
Metacognition	**Definition:** The autonomous task-related cognitive activity involving organization, sensemaking, and the manipulation of one's own psychological states. **Illustrative Quotations:** I have been an entrepreneur and so I always look for opportunities of improving the business and taking initiative on my own to make that happen. I actually had my own business for 10 years . . . I added in a mentor role as well. My role is primarily process operations and that was my main focus, but I used past business experience that I have to make sure that as we grow, that we are putting things in place both skills wise and infrastructure to be able to support that growth. (Animal Nutrition Company) Our job tends to be one where you're talking to somebody and they are upset . . . Actually the principal came from my work . . . Focus on the issue not the person . . . Originally that meant if you are having an interaction and somebody says something you don't like, you know, you're supposed to focus on the situation, not the person. So I kind of took that broadened because I thought well that makes sense for everything, especially in our job. So when someone's mad at you don't focus on the fact that they're mad, don't focus on the fact that they're gonna call you names, or those sorts of things. Focus on, "OK, I understand that. I'm really sorry. I'm here to try to correct that. What can I do to begin getting us on the path of correcting the problem?" Once you let people vent and lead them back to that, that's when the real problem solving begins. And to be honest, I think if I hadn't done something like that, this job would drive me nuts. (Information Technology)
Avoidance Resource Crafting	
Withdrawal Crafting	**Definition:** The systematic removal of oneself, either mentally or physically, from a person, situation, or event through changes to one's job. **Illustrative Quotations:** I just don't do my job on my own and if something comes up that is not right, I take a walk so that I think about what I need to do next or if I need to consult somebody. Like somebody calls you, they have an issue with their accounts being charged for something different or the person will go out of country and take out an air card and they are being charged a lot of money because they used an out of country provider . . . Taking a walk listening to music or talking to my coworker for a little bit. (Information Technology) Some of my prospects, they are not, let's say, the greatest people in the world. They're not the nicest people in the world. They're not the friendliest people. In my mind, I get very stressed out by that because I think they don't like me, or they're judging me for X number of reasons. Anyway, they just cause a lot of stress in my job and one way I kind of job craft on that is maybe the infrequent visits I do have . . . I don't try to meet with them frequently. (Animal Nutrition Company)

Notes: $n = 196$ employees.

FIGURE 1
Role–Resource Approach–Avoidance Model of Job Crafting



definitional characteristics of job crafting, work role reduction can also involve delegation (Leana, 1986) and surrogacy (Galvin, Balkundi, & Waldman, 2010). While delegation is often considered a managerial activity, it often occurs informally when managers have more critical or desirable tasks that they wish to prioritize (Yukl, 2013). Work role reduction is not delegation in the traditional sense from the perspective of the leadership participation literature because work role reduction involves managers giving away tasks and roles that were the manager's formal responsibility prior to delegation. They give the work away to avoid a task. It is not work role reduction if a manager distributes work originally intended for the group. For an activity to be work role reduction, an individual must delegate their own work. Surrogacy captures the degree to which another person acts on behalf of an individual within a set of social (leadership) interactions, thereby complementing delegation. Surrogacy involves getting someone else to take one's place in the social domain. A total of 47 examples (11% of the total sample) were provided.

Approach resource crafting—Work organization. Work organization involves the active design of systems and strategies to organize the tangible elements of work and can involve managing behavior or physical surroundings. It is a form of resource crafting, as it does not formally involve changing an individual's task boundaries. It involves systematic changes to one's current work to get more resource value out of the set of tasks one currently has, possibly through increases in feedback from the job, increases in one's job control, or other means. Work organization can also involve organizing other individuals' behaviors through the creation of behavioral protocols and regulations, but it does not involve the active management of interactions involving the job crafter and another individual. This would be social expansion. The use of technology and outside knowledge only supplements the implementation of structure, as its direct use would represent another form of job crafting: adoption (described next). Work organization represents a specific task-focused form of increasing structural job resources (Tims et al., 2012). Assuming that the definitional characteristics of job crafting are met, this form of job crafting represents a specific and systematic manifestation of task strategies (Campion & Lord, 1982), process innovation (Scott & Bruce, 1994), or behavioral self-management (Stewart et al., 2011). While task revision (Staw & Boettger, 1990) has been distinguished from role crafting (Wrzesniewski & Dutton, 2001), the resource-based perspective aligns more with this concept by involving the maximization of one's capabilities and process customization (Tims et al., 2012). A total of 130 examples (30% of the total sample) were provided.

Approach resource crafting—Adoption. Adoption involves the active and goal-directed use of technology and other sources of knowledge to alter the job and enhance a work process. It represents a form of resource crafting as it involves adopting, importing, or integrating environmental technology- or knowledge-based resources into one's formal work role. These activities focus on specific technologies or knowledge bases. It does not involve the use of technology to remove one's self from the situation, such as using e-mail instead of face-to-face communication to avoid undesirable human contact. The fundamental difference between adoption and work organization is that adoption involves the

acquisition of external resources either through actively increasing one's knowledge or adopting a specific technology that complements one's work, while work organization involves restructuring and modifying the use of one's current resources. It represents a specific form of increasing structural resources (Tims et al., 2012). When a set of activities complies with the definitional characteristics of job crafting, these activities can be manifest in employees' self-directed knowledge enlargement (Campion & McClelland, 1993) or adoption-based process innovation (Scott & Bruce, 1994). A total of 55 examples (13% of the total sample) were provided.

Approach resource crafting—Metacognition. Metacognition is the autonomous task-related cognitive activity involving organization, sensemaking, and the manipulation of one's own psychological states. It represents a form of resource crafting as it involves the autonomous creation of meaning, sense, identity, responsibility, priorities, and organization within the crafter's mind. It differs from other forms of job crafting in that it is purely cognitive, does not involve visible behavioral changes to the tasks, and is characterized by increasing cognitive activity instead of psychological withdrawal or reduction. Metacognition represents active cognitive changes individuals make to their jobs (Wrzesniewski & Dutton, 2001). While cognitive forms of job crafting tend to be applications of role crafting (e.g., Berg et al., 2010a, 2010b; Wrzesniewski & Dutton, 2001), our results suggested that most of the examples more closely aligned with a purely cognitive form of work organization. The combination of its predominance of cognitive activity and goal-directed nature distinguishes it from other job crafting activities and suggests that it operates in a manner more reflective of resource crafting. Given the compliance with the defining characteristics of job crafting, metacognition can be reflected in cognitive forms of self-management (Carver & Scheier, 1981; Stewart et al., 2011), metacognitive activity (Ford, Smith, Weissbein, Gully, & Salas, 1998), or active emotion-focused coping (Lazarus & Folkman, 1984). A total of 35 examples (8% of the total sample) were provided.

Avoidance resource crafting—Withdrawal crafting. Withdrawal crafting involves the systematic removal of oneself either mentally or physically from a person, situation, or event through changes to one's job. Withdrawal crafting is not a one-time avoidance of a situation, as it must be fairly permanent and systematic to be job crafting. It cannot be an accidental occurrence either, as it must be volitional. It is also not a formalized change to one's task or social role, as those more formal changes to one's work roles and boundaries represent work role reduction. While examples involve distancing oneself from the environment, it is not by definition negative. Employees also appeared to engage in facilitative forms of withdrawal crafting that were intended to help them focus on a more important or pressing task or interaction. This form of job crafting represents systematic yet avoidance-oriented forms of job crafting, and aligns with reducing social and hindering demand dimensions of resource crafting (Nielsen & Abildgaard, 2012; Tims et al., 2012). When the activity complies with the defining characteristics of job crafting, this dimension can capture other activities, such as avoidance-based relational boundary management (Trefalt, 2013); systematic forms of shirking, social loafing, and neglect (Hirschman, 1970; Kidwell & Bennett, 1993); systematic and volitional bored behavior (van Hooff & van Hooft, 2014); work withdrawal (e.g., Hanisch & Hulin, 1990); or passive forms of systematic emotion-focused coping (Lazarus & Folkman, 1984). A total of 50 examples (12% of the total sample) were provided.

Quantitative Results and Hypothesis Tests

Preliminary analyses supported the construct validity of the quantitative measures. Results of confirmatory factor analyses conducted on employee self-reported and supervisor-reported measures support the expected seven factors, including measures of organizational tenure, proactive personality, work meaning, job satisfaction, supervisor observed strain, work–home conflict, and overall performance ($\chi^2(117) = 167.07$, CFI = .96, IFI = .96 RMSEA = .05) over alternative models including a single-factor model ($\chi^2(135) = 912.28$, CFI = .34, IFI = .36, RMSEA = .18) and alternative six-factor models that combined job satisfaction and meaningful work into the same overall enrichment factor ($\chi^2(122) = 183.79$, CFI = .95, IFI = .95, RMSEA = .05; χ^2 difference test significant at $p < .01$) and that combined supervisor observed strain and work–home conflict onto the same strain factor ($\chi^2(122) = 268.69$, CFI = .89, IFI = .88, RMSEA = .08). We tested Hypothesis 3 using a composite measure that captured the average standardized performance ranking across the three indices to measure overall performance. The measure displayed strong internal consistency ($\alpha = .92$), adequate loadings onto a common latent factor (Mean $\lambda = .87$; Range of $\lambda = .06$), and an

adequate average variance explained (AVE = .75). We also report on specific performance dimensions.

We used both multilevel modeling and ordinary least squares (OLS) regression to test Hypotheses 1, 3, and 4. Descriptive statistics and intercorrelations are shown in Table 2 and results of multivariate analyses in Table 3. Analytic models were selected depending on the level and significance of group effects within the multi-level null model. For all analyses, the .1 significance level (using a two-tailed test) is used to balance types 1 and 2 error. Due to nonsignificant group-level effects, OLS regression was used to test relationships between job crafting and independent enrichment elements of work meaning and job satisfaction. Multilevel analyses were used to test relationships between job crafting and work–home conflict, supervisor observed strain, overall performance, efficiency, teamwork, and process improvement due to their significant group-level effects. Level 2 variables accounted for substantial proportional increases in explained variance beyond that accounted for by the null models for all variables (Table 3). The large increases in the level 2 proportion of variance explained across supervisor ranked measures could be at least partially attributed to the differing group sizes.

Hypothesis 1 predicted that role crafting would positively relate to enrichment. Work role expansion was positively related to work meaning ($b = .21$, $p < .10$) but not job satisfaction ($b = -.12$, n.s.). Social expansion also had a significant positive relationship with both work meaning ($b = .22$, $p < .10$) and job satisfaction ($b = .30$, $p < .05$). Work role reduction did not have a significant relationship with work meaning ($b = -.09$, n.s.) or job satisfaction ($b = -.08$, n.s.). Thus, Hypothesis 1 had partial support.

Hypothesis 3 predicted that resource crafting would positively relate to performance. Overall performance was positively related to both adoption ($b = .56$, $p < .05$) and work organization ($b = .32$, $p < .10$), but not withdrawal crafting ($b = .21$, n.s.). Withdrawal crafting did have a significant positive relationship with efficiency ($b = .32$, $p < .10$). Adoption also had positive relationships with efficiency ($b = .55$, $p < .10$), teamwork ($b = .56$, $p < .05$), and process improvements ($b = .67$, $p < .01$). Work organization had significant positive relationships with both efficiency ($b = .43$, $p < .05$) and process improvement ($b = .39$, $p < .05$). Thus, Hypothesis 3 received relatively strong overall support.

Hypothesis 4 predicted that role and resource crafting would negatively relate to strain. Work–home conflict did not significantly relate to work role expansion ($b = .09$, n.s.), social expansion ($b = -.07$, n.s.), or work role reduction ($b = .20$, n.s.). Supervisor observed strain had significant negative relationships with work role expansion ($b = -.47$, $p < .05$) and social expansion ($b = -.34$, $p < .1$). Supervisor observed strain did not relate to work role reduction ($b = -.31$, n.s.). Adoption had a significant negative relationship with work–home conflict ($b = -.22$, $p < .1$). Work–home conflict did not have a significant relationship with work organization ($b = -.19$, n.s.), metacognition ($b = -.02$, n.s.), or withdrawal crafting ($b = .07$, n.s.). Supervisor observed strain was not related to work organization ($b = -.11$, n.s.), adoption ($b = -.07$, n.s.), metacognition ($b = .09$, n.s.), or withdrawal crafting ($b = -.10$, n.s.). Thus, Hypothesis 4 was partially supported for both role and resource crafting. Hypothesis 6 will be evaluated based on tests from both studies and presented with the Study 2 results.

STUDY 2 METHODS

The overall purpose of Study 2 was to cross-validate the dimensional structure in a new sample that was not involved in the development of the taxonomy, and to replicate and extend the tests of the hypotheses with semicontinuous measures of job crafting and additional outcomes of engagement (Hypothesis 2) and work withdrawal (Hypothesis 5). Specifically, it was intended to provide quantitative empirical support for the dimensional structure that emerged from the qualitative analyses in Study 1, to provide supporting evidence for our prediction that role crafting positively relates to enrichment (Hypothesis 1), to provide a primary test for our predictions that both role and resource crafting positively relate to engagement (a positive contrast to strain [Tims et al., 2013] Hypothesis 2), to support the idea that avoidance crafting will positively relate to work withdrawal (Hypothesis 5), and to provide additional support for our prediction that approach crafting will be more effective in predicting specific outcomes compared to avoidance crafting (Hypothesis 6).

Participants and Procedures

Our sample of working adults from the U.S. ($n = 323$) was collected with the assistance of StudyResponse (Stanton & Weiss, 2002), a nonprofit academic recruitment service that has been used in previous organizational behavior research (Piccolo & Colquitt, 2006). Their staff recruits and compensates

TABLE 2
Study 1 Descriptive Statistics and Intercorrelations

	Mean	*SD*	1	2	3	4	5	6	7	8	9	10
1. Face-to-Face Interview	0.80	0.40										
2. Gender (M = 0; F = 1)	0.56	0.50	–0.10									
3. Organizational Tenure	12.13	9.91	0.18	–0.13								
4. Group Opportunity	0.58	1.03	0.33	–0.28	0.15	(0.89)						
5. Group Goals	0.59	1.00	–0.08	–0.22	–0.02	–0.01	(0.76)					
6. Job Autonomy	0.60	10.71	0.21	–0.36	0.19	0.40	0.18	(0.81)				
7. Job Complexity	0.61	8.93	0.17	–0.43	0.15	0.38	0.27	0.83	(0.94)			
8. Proactive Personality	0.62	0.54	0.06	–0.08	0.04	0.05	0.08	0.09	0.03	(0.67)		
9. Performance Motives	0.37	0.28	–0.10	–0.09	0.06	–0.06	0.10	0.11	0.11	0.01		
10. Development Motives	0.27	0.29	–0.04	0.17	–0.19	–0.09	–0.02	–0.25	–0.16	–0.02	–0.47	
11. Well-Being Motives	0.26	0.28	0.11	–0.14	0.06	0.19	0.03	0.25	0.22	0.03	–0.39	–0.39
12. Work Role Expansion	0.28	0.45	–0.05	–0.04	0.01	–0.01	–0.04	0.08	0.02	0.00	–0.04	–0.07
13. Social Expansion	0.23	0.42	–0.04	–0.12	0.05	0.05	0.09	0.00	0.06	–0.04	0.04	0.01
14. Work Role Reduction	0.22	0.42	0.07	–0.04	–0.03	0.17	0.05	0.30	0.26	0.16	–0.02	0.08
15. Work Organization	0.53	0.50	–0.09	0.18	–0.10	–0.18	–0.08	–0.23	–0.20	0.02	0.03	–0.07
16. Adoption	0.26	0.44	0.12	0.02	–0.07	0.19	0.03	0.16	0.15	–0.02	–0.00	0.14
17. Meta-Cognition	0.16	0.36	0.03	–0.08	–0.00	–0.16	0.09	–0.01	–0.01	–0.02	0.06	–0.11
18. Withdrawal	0.23	0.42	–0.01	0.04	0.05	0.05	0.03	–0.05	–0.07	–0.17	0.01	–0.11
19. Overall Performance	0.02	0.91	0.02	–0.18	0.04	0.03	0.33	0.15	0.24	0.05	0.07	0.01
20. Efficiency	0.02	0.99	–0.01	–0.18	0.10	0.00	0.31	0.13	0.18	0.04	0.04	0.01
21. Teamwork	0.01	1.00	–0.00	–0.13	0.03	–0.00	0.27	0.10	0.16	0.04	0.03	0.06
22. Work Improvements	0.01	1.00	0.05	–0.21	0.02	0.05	0.24	0.18	0.28	0.10	0.12	–0.04
23. Meaningful Work	3.97	0.59	–0.07	–0.09	0.05	–0.04	0.07	0.07	0.03	0.36	0.08	–0.08
24. Job Satisfaction	4.09	0.68	0.09	0.12	–0.03	0.06	–0.09	0.02	–0.10	0.16	0.05	–0.07
25. Work/Home Conflict	2.32	0.80	–0.15	–0.15	0.00	0.18	0.27	0.20	0.32	0.20	0.02	0.02
26. Observed Strain	0.02	0.99	–0.04	–0.17	0.14	–0.01	0.31	0.13	0.21	0.05	0.08	–0.03

participants from their panel to take online surveys. The sample was 52% male (with an average 5.81 years of job tenure and 10.23 years of organizational tenure) and held jobs in managerial, professional, craft, health, clerical, skilled, semiskilled, and labor occupations. Power ranged between 89 and 97% to detect r =.20 (two-tailed) across analyses using $p < .05$, and between 94 and 99% to detect r =.10 (two-tailed) using $p < .10$ (Cohen, 1988).

Measures

Job crafting. Our measure of job crafting was developed based on the qualitative analyses conducted in Study 1. It captured all seven subdimensions, including work role expansion (α = .83), social expansion (α = .85), work role reduction (α = .83), work organization (α = .79), adoption (α = .88), metacognition (α = .84), and withdrawal crafting (α = .72). Items were assessed with a five-point frequency scale (1 = "Never" and 5 = "All of the Time"), and are presented in Appendix 1.

Job crafting outcomes. We assessed a range of outcomes in Study 2 to broadly capture outcomes of enrichment, engagement, and work withdrawal. Enrichment was measured with three-item scales for both perceived *work meaning* (α = .86) and perceived *work impact* (α = .84) (Spreitzer, 1995). Engagement was measured with items for both *physical engagement* (three items, α = .72) and *cognitive engagement* (five items, α = .90) from Rich, LePine, and Crawford (2010). Work withdrawal was assessed using six *bored behavior* items (α = .93) from van Hooff and van Hooft's (2014) scale, *general neglect* using three items (α = .90) from Farrell's (1983) scale, and *turnover intentions* using four items (α = .93) from Kelloway, Gottlieb, and Barham's (1999) scale. All items were assessed using five-point agreement scales (1 = "Strongly disagree" to 5 = "Strongly agree").

Controls. We controlled for demographic characteristics of gender, age, organizational tenure, and job tenure as each correlated with at least one of the job crafting outcomes assessed. Participants self-reported their gender. Age was measured according to responses of "18 years or less," "19–25 years," "26–35 years," "36–45 years," "46–55 years," and "greater than 55 years." Organizational and job

TABLE 2
(Continued)

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
0.10														
–0.03	–0.17													
0.13	–0.04	–0.20												
–0.07	–0.23	–0.04	0.20											
0.00	–0.15	–0.06	–0.01	–0.43										
0.04	–0.03	–0.20	0.12	–0.06	–0.12									
0.02	–0.09	–0.12	–0.17	–0.22	0.00	–0.16								
0.02	–0.07	–0.01	0.02	–0.08	0.15	0.06	–0.00	(0.92)						
0.03	–0.10	–0.04	0.00	–0.02	0.12	0.05	0.07	0.91						
–0.02	–0.04	0.01	0.01	–0.10	0.12	0.07	0.00	0.91	0.72					
0.03	–0.04	–0.02	0.03	–0.08	0.21	–0.00	–0.06	0.92	0.76	0.77				
0.08	0.16	0.12	–0.05	–0.06	0.04	–0.01	–0.06	0.01	0.04	0.03	0.02	(0.73)		
–0.04	–0.12	0.14	–0.02	0.18	–0.08	–0.06	–0.02	0.00	0.01	0.11	–0.04	0.34		
0.14	–0.01	0.01	0.17	–0.11	0.01	–0.08	0.07	–0.05	–0.05	–0.07	–0.07	0.03	–0.25	(0.87)
–0.04	–0.14	–0.01	0.01	–0.11	0.04	0.12	0.00	0.67	0.58	0.53	0.65	–0.02	–0.10	0.04

Notes: $n = 181$. Correlations of .15 or higher are significant at $p < .05$ (two-tailed).

tenure were captured via continuous measures asking, "How long have you worked for this organization?" and "How long have you worked this specific job?" We measured (moralistic) social desirability using nine items ($\alpha = .88$) from Kovacic, Galic, and Jerneic (2014), to reduce the threat of common method bias.

STUDY 2 RESULTS

We conducted confirmatory factor analyses to test the dimensional structure of both the job crafting and outcome measures. Results suggested that the seven-factor model of job crafting had an adequate fit with the data ($\chi^2(384) = 886.42$, CFI = .90, IFI = .91, RMSEA = .06). This model also had a superior fit with the data when compared to both a one-factor model ($\chi^2(406) = 2523.79$, CFI = .59, IFI = .60, RMSEA = .13) and any of the six-factor models tested (best fitting six-factor model: $\chi^2(390) = 932.68$, CFI = .90, IFI = .90, RMSEA = .07; χ^2 difference test significant at $p < .01$). Results also suggested that the 19-factor model that included all outcome variables had an adequate fit with the data ($\chi^2(2178) = 3581.02$, CFI = .90, IFI = .90, RMSEA = .05). This model also had a superior fit with the data compared to both a one-factor model ($\chi^2(2345) = 11620.90$, CFI = .31, IFI = .31, RMSEA = .11) and the best fitting alternative model, an 18-factor model that combined cognitive and physical engagement ($\chi^2(2196) = 3619.39$, CFI = .89, IFI = .90, RMSEA = .05; χ^2 difference test significant at $p < .01$).

Table 4 presents the correlations and descriptive statistics. Correlations show that many of the job crafting dimensions are moderately to highly correlated. While similar in some ways, their differences also highlight the nuanced nature of job crafting activities and outcomes. Table 5 presents the results of the OLS regression analyses. Job crafting explained meaningful incremental variance in outcomes beyond that accounted for by personal characteristics and social desirability. The .1 significance level (using a two-tailed test) was used to balance types 1 and 2 error for directional hypothesis tests.

The three types of role crafting predicted at least one measure of enrichment. Impact was positively

TABLE 3
Study 1 Ordinary Least Squares and Hierarchical Linear Modeling Outcomes of Job Crafting

	Work Enrichment		Strain		Performance			
Variable	**Work Meaning**	**Job Satisfaction**	**Work–Home Conflict**	**Observed Strain**	**Composite Performance**	**Efficiency**	**Teamwork**	**Process Improvement**
Controls								
Group Opportunity			0.10(0.07)	–0.05(0.07)	–0.00(0.07)	–0.00(0.07)	–0.05(0.08)	–0.05(0.07)
Group Goals			0.09(0.08)	0.14(0.12)	0.13(0.11)	0.12(0.10)	0.09(0.11)	0.05(0.10)
# of Members Ranked				–0.06(0.01)**	–0.10(0.01)**	–0.10(0.01)**	–0.10(0.02)**	–0.10(0.01)**
Face-to-Face Interview	–0.10(0.13)	0.19(0.15)	–0.57(0.15)**	–0.21(0.18)	–0.19(0.16)	–0.22(0.19)	–0.31(0.18)†	–0.10(0.15)
Gender	0.01(0.11)	0.14(0.13)	0.11(0.12)	–0.11(0.16)	–0.03(0.14)	–0.18(0.13)	–0.06(0.22)	–0.16(0.15)
Organizational Tenure	0.00(0.01)	–0.01(0.01)	0.00(0.00)	0.01(0.01)†	0.00(0.01)	0.01(0.01)*	0.00(0.01)	0.00(0.01)
Proactive Personality	0.44(0.08)	0.18(0.10)†	0.24(0.12)†	0.12(0.13)	0.28(0.17)	0.26(0.14)†	0.26(0.18)	0.41(0.23)†
Autonomy	0.00(0.01)	0.02(0.01)†	–0.04(0.01)**	–0.01(0.01)	–0.00(0.01)	0.01(0.01)	0.00(0.01)	–0.01(0.01)
Complexity	–0.00(0.01)	–0.02(0.01)*	0.05(0.01)**	0.02(0.02)	0.01(0.01)	–0.00(0.01)	0.01(0.01)	0.03(0.01)*
Group Opportunity	–0.03(0.05)	0.07(0.06)						
Group Goals	0.01(0.05)	–0.04(0.06)						
Performance Motives	0.33(0.26)	0.14(0.31)	0.53(0.30)†	–0.25(0.43)	0.20(0.49)	0.07(0.38)	0.19(0.58)	0.39(0.58)
Development Motives	0.16(0.27)	–0.09(0.32)	0.54(0.23)*	–0.31(0.48)	0.21(0.53)	0.32(0.40)	0.35(0.69)	0.22(0.62)
Personal Motives	0.33(0.25)	–0.08(0.30)	0.57(0.33)†	–0.27(0.49)	0.47(0.53)	0.48(0.45)	0.35(0.66)	0.60(0.58)
Level 1 Approach Role Crafting								
Work Role Expansion	0.21(0.13)†	–0.12(0.15)	0.09(0.12)	–0.47(0.19)*	–0.12(0.18)	–0.20(0.18)	–0.08(0.25)	–0.01(0.18)
Social Expansion	0.22(0.13)†	0.30(0.15)*	–0.07(0.14)	–0.34(0.19)†	–0.05(0.24)	–0.13(0.24)	0.08(0.29)	–0.06(0.25)
Level 1 Avoidance Role Crafting								
Work Role Reduction	–0.09(0.14)	–0.08(0.17)	0.20(0.17)	–0.31(0.20)	–0.08(0.22)	–0.02(0.21)	–0.01(0.25)	–0.06(0.23)
Level 1 Approach Resource Crafting								
Work Organization	–0.04(0.14)	0.25(0.17)	–0.19(0.13)	–0.11(0.18)	0.32(0.18)†	0.43(0.21)*	0.34(0.22)	0.39(0.17)*
Adoption	–0.01(0.14)	–0.02(0.16)	–0.22(0.13)†	–0.07(0.22)	0.56(0.26)*	0.55(0.29)†	0.56(0.26)*	0.67(0.24)**
Metacognition	0.02(0.15)	–0.00(0.18)	–0.02(0.14)	0.09(0.21)	–0.01(0.18)	0.12(0.20)	0.04(0.21)	–0.15(0.20)
Level 1 Avoidance Resource Crafting								
Withdrawal Crafting	0.02(0.15)	0.05(0.17)	0.07(0.20)	–0.10(0.15)	0.21(0.17)	0.32(0.19)†	0.24(0.26)	0.23(0.18)
Level 2 ICC	*0.00*	*0.00*	*0.37***	*0.26***	*0.36***	*0.30***	*0.28***	*0.25***
R^2	*0.22*	*0.19*						
Pseudo R^2 $_{\text{Level 2; Level 1}}$			*0.40;0.08*	*0.71;0.03*	*0.87;0.05*	*0.75;0.11*	*0.77;0.05*	*0.100;0.09*

Notes: $n = 158$, 35 groups. Unstandardized coefficients with standard errors included in parentheses. Pseudo R^2 values compared to baseline model with no predictors for outcomes with meaningful group effects. R^2 values were presented for analyses that had no group effects.

† $p \leq .1$ (two-tailed test)

* $p \leq .05$ (two-tailed test)

** $p \leq .01$ (two-tailed test)

TABLE 4
Study 2 Descriptive Statistics and Intercorrelations

	Mean	*SD*	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Gender (1 = M; 2 = F)	1.48	0.50	301																			
2. Age	3.38	1.08	302	0.20																		
3. Organizational Tenure	10.23	7.63	297	−0.07	0.44																	
4. Job Tenure	5.81	5.80	296	0.01	0.25	0.58																
5. Social Desirability	2.64	0.86	292	0.12	−0.25	−0.17	−0.11	(0.88)														
6. Work Role Expansion	3.31	0.75	315	−0.04	−0.13	0.01	0.09	−0.14	(0.83)													
7. Social Expansion	3.46	0.75	316	0.09	−0.04	0.05	0.10	−0.20	0.75	(0.85)												
8. Work Role Reduction	2.28	0.91	318	−0.34	−0.29	−0.05	0.05	0.23	0.37	0.26	(0.83)											
9. Work Organization	3.79	0.76	314	0.19	0.10	−0.02	0.00	−0.23	0.52	0.51	−0.05	(0.79)										
10. Adoption	3.35	0.85	309	0.00	−0.15	0.01	0.03	−0.17	0.76	0.71	0.34	0.42	(0.88)									
11. Metacognition	3.56	0.72	316	0.15	0.05	−0.06	0.01	−0.20	0.66	0.74	0.18	0.66	0.58	(0.84)								
12. Withdrawal Crafting	2.51	0.86	296	−0.22	−0.26	−0.12	0.01	0.40	0.14	−0.01	0.60	−0.06	0.11	0.04	(0.72)							
13. Meaning	3.95	0.78	302	0.01	0.12	0.15	0.10	−0.27	0.39	0.42	0.00	0.31	0.38	0.34	−0.11	(0.86)						
14. Impact	3.52	1.00	303	−0.18	−0.15	0.08	0.20	−0.10	0.42	0.36	0.31	0.18	0.31	0.20	0.07	0.46	(0.84)					
15. Physical Engagement	4.05	0.68	301	0.12	0.14	0.09	0.04	−0.20	0.26	0.31	−0.10	0.36	0.29	0.35	−0.08	0.54	0.28	(0.72)				
16. Cognitive Engagement	4.16	0.66	296	0.15	0.17	0.03	−0.01	−0.26	0.24	0.32	−0.18	0.43	0.28	0.30	−0.21	0.63	0.26	0.75	(0.90)			
17. Bored Behavior	2.04	0.89	298	−0.12	−0.34	−0.15	−0.06	0.60	−0.04	−0.10	0.34	−0.19	−0.03	−0.10	0.44	−0.30	−0.06	−0.33	−0.43	(0.93)		
18. Neglect	1.71	0.91	301	−0.22	−0.34	−0.12	−0.05	0.46	0.04	−0.05	0.44	−0.24	0.05	−0.09	0.45	−0.21	0.03	−0.31	−0.42	0.77	(0.90)	
19. Turnover Intentions	2.52	1.24	304	−0.21	−0.22	−0.19	−0.15	0.34	0.13	−0.06	0.38	−0.05	0.05	−0.03	0.43	−0.20	−0.01	−0.11	−0.20	0.45	0.49	(0.93)

Notes: $n = 323$. Scale reliabilities are presented in the diagonals. All values of .12 or higher are significant at $p < .05$.

TABLE 5
Study 2 OLS Outcomes of Job Crafting

Variable	*Enrichment*		*Engagement*		*Work Withdrawal*		
	Work Meaning	Work Impact	Physical Engagement	Cognitive Engagement	Bored Behavior	General Neglect	Turnover Intentions
Controls							
Gender	–0.08	–0.11†	0.04	–0.00	0.07	–0.02	0.03
Age	0.12†	–0.12†	0.07	0.13*	–0.20**	–0.17**	0.08
Organizational Tenure	0.05	0.08	0.07	–0.02	0.01	0.00	–0.07
Job Tenure	0.04	0.23*	0.04	0.00	0.01	0.00	–0.13*
Social Desirability	–0.10	–0.08	–0.04	–0.01	0.45**	0.31**	0.24**
Approach Role Crafting							
Work Role Expansion	0.07	0.23*	–0.00	–0.07	–0.00	0.04	0.29**
Social Expansion	0.22*	0.15	–0.01	0.18†	–0.08	–0.06	–0.30**
Avoidance Role Crafting							
Work Role Reduction	–0.02	0.35**	–0.05	–0.14	0.13†	0.17*	0.23**
Approach Resource Crafting							
Work Organization	0.09	0.17*	0.21**	0.37**	–0.01	–0.11	0.12
Adoption	0.11	–0.13	0.14	0.17†	–0.02	0.04	0.04
Metacognition	0.05	–0.08	0.23*	–0.03	–0.05	–0.03	–0.12
Avoidance Resource Crafting							
Withdrawal Crafting	–0.09	–0.22**	–0.04	–0.06	0.14*	0.15*	0.16*
R^2	*0.28***	*0.34***	*0.28***	*0.33***	*0.46***	*0.38***	*0.33***

Notes: $n = 238$, standardized coefficients. P values of .1 were considered significant as we used one-tailed significance tests for directional hypotheses. All incremental R^2 values for the models with job crafting variables included were significant, suggesting that as a set job crafting explained a meaningful portion of the variance in employees' subjective work experiences above and beyond personal characteristics and social desirability: Meaning: $\Delta R^2 = .18$; Impact: $\Delta R^2 = .20$; Physical Engagement: $\Delta R^2 = .20$; Cognitive Engagement: $\Delta R^2 = .25$; Bored Behavior: $\Delta R^2 = .05$; Neglect: $\Delta R^2 = .08$; Turnover Intentions: $\Delta R^2 = .16$.

$^{\dagger}p \leq .1$ (two-tailed test)

*$p \leq .05$ (two-tailed test)

**$p \leq .01$ (two-tailed test)

related to both work role expansion ($b = .22$, $p < .05$) and work role reduction ($b = .35$, $p < .01$), while social expansion positively related to meaning ($b = .23$, $p < .05$). Results of the analyses suggest that both approach and avoidance role crafting positively relate to work enrichment, yet different forms of role crafting relate to different aspects of enrichment. Hypothesis 1 is supported for all specific types of role crafting. Two unpredicted findings are that withdrawal crafting had a negative relationship with perceived impact ($b = -.22$, $p < .01$), and work organization had a positive relationship with perceived impact ($b = .17$, $p < .05$).

Three of the four types of resource crafting and social expansion (role crafting) predicted engagement. Physical engagement was positively related to metacognition ($b = .23$, $p < .05$) and work organization ($b = .21$, $p < .01$). Cognitive engagement was positively related to social expansion ($b = .18$, $p < .1$), work organization ($b = .37$, $p < .01$) and adoption ($b = .17$, $p < .1$). Withdrawal crafting was not related to either physical ($b = -.04$, n.s.) or cognitive engagement ($b = -.06$, n.s.). Thus, Hypothesis 2 is supported for approach role crafting and partially supported for approach resource crafting, but not supported for avoidance role or resource crafting.

Both types of avoidance crafting had significant positive relationships with work withdrawal. Specifically, bored behavior was positively related to both work role reduction ($b = .13$, $p < .1$) and withdrawal crafting ($b = .14$, $p < .05$), general neglect was positively related to both work role reduction ($b = .17$, $p < .05$) and withdrawal crafting ($b = .15$, $p < .05$), and turnover intentions were positively related to both work role reduction ($b = .23$, $p < .01$) and withdrawal crafting ($b = .16$, $p < .05$). These results support Hypothesis 5. Two significant unexpected findings were that work role expansion had a significant positive relationship with turnover intentions ($b = .29$, $p < .01$), and that social expansion had a significant negative relationship with turnover intentions ($b = -.30$, $p < .01$).

Results from both studies also suggest considerable differences between approach and avoidance

forms of role and resource crafting. Across both studies, 76% (13 of 17) of the relationships assessed according to our hypothesis tests were at least partially supported for approach crafting, while only 29% (2 of 7) of the relationships assessed according to our hypothesis tests were at least partially supported for avoidance crafting. Moreover, the 29% indicates a significant relationship between withdrawal crafting and efficiency, which serves as support for Hypothesis 6. Only 14% were supported when using the overall performance measure as the only performance outcome of interest. These results provide relatively strong support that, in general, avoidance role or resource crafting is less effective compared to approach-oriented forms of the same type of job crafting. Thus, Hypothesis 6 is supported.

DISCUSSION

We sought to develop a taxonomy of job crafting activities with three functional purposes: integrating the role-based and resource-based literatures and applying the approach and avoidance themes to this integration; identifying, clarifying, and describing any new specific types of job crafting not previously known; and showing that these specific types of job crafting relate to different outcomes. Our results achieve each of these three purposes. First, they suggest that role- and resource-based perspectives are different and that both have approach and avoidant components. Second, our taxonomy highlights new specific dimensions of job crafting not yet clearly outlined in the literature. Prior job crafting research has outlined aspects of task and challenge expansion, social expansion, resource use, and cognitively based job crafting. However, the current study clarified our understanding of avoidance crafting by distinguishing between work role reduction and withdrawal crafting. The study also clarified the category of approach resource crafting by distinguishing between work organization and adoption, and better specifying (quantifying) metacognition. Finally, our analyses suggest that role and resource crafting, as well as approach and avoidance crafting, can relate to outcomes of enrichment (e.g., empowerment dimensions of meaning and identity), work–home conflict, work efficiency, teamwork, process improvements, and work withdrawal (i.e., bored behavior, neglect, and turnover intentions). More specific types of job crafting had unique patterns of relationships with specific outcomes according to generalized predictions of role–resource and approach–avoidance crafting (as summarized below). These specific activities might be relevant to different segments of the workforce. For example, adoption appears to be a form of job crafting effectively harnessed by (semi) autonomous knowledge workers, and work organization is one of the few modes of job crafting that can be beneficially employed by more rank-and-file workers with more standardized and regulated jobs. Similarly, changing what one does at work can differ considerably from changing who one interacts with at work, depending on whether social interactions are an important component of one's job. The job crafting measure developed in these studies could also help facilitate future research and the creation of more nuanced job crafting theory.

Role Crafting

Work role expansion represents the self-initiated expansion of the incumbent's work role to include elements of work and related activities not originally included in the formal work description. Work role expansion integrates previously discussed task crafting concepts and provides a synthesis of this domain. However, our qualitative results also suggest new content that should be considered, as results show that people can add personally relevant content, such as exercise or other personal maintenance activities, to their jobs. Work role expansion appears to increase the meaning and impact people derive from their work and reduce their supervisor's perceptions of the employee's strain. It closely aligns with the propositions presented by Wrzesniewski and Dutton (2001), and it appears to align with the general predictions of their model. The unexpected positive relationship between work role expansion and turnover intentions might represent a proactive response to dissatisfying work (Hirschman, 1970), whereby an individual expands their work role in preparation for a future job change.

Social expansion occurs within the social domain of work and involves the proactive use of social resources or a contribution of resources from another organizational member or collective. Social expansion integrates previously discussed social and collective forms of job crafting and provides a synthesis of this domain at the individual level of theory. While the general premise of social expansion seems relatively well established, our data revealed content yet to be formally considered within the social expansion domain, including systematic developmental networking, systematic work process modifications focused on communication improvements, and systematic

contributions to collective tasks and climates. Benefits of social expansion include higher work meaning, higher job satisfaction, higher cognitive engagement, and lower observable strain. The unexpected negative relationship between social expansion and turnover intentions might occur because enrichment interrupts withdrawal progression. Social expansion might be further informed by literature on social networks and exchange.

Work role reduction involves consciously and proactively reducing the work role, work requirements, effort expenditures, or task accountability. Concepts of work role reduction have been alluded to in role-based theory and research when authors have discussed people changing the number and scope of tasks (e.g., Wrzesniewski & Dutton, 2001), but this type of job crafting has never been specifically described as a unique form of task crafting. We present it as a unique avoidance-focused form of role crafting that is distinct from approach role crafting (e.g., work role expansion). It is positively related to perceived impact and work withdrawal. It might be engaged by those with high demands in an effort to reduce the implications of these demands.

Workers seeking to enrich their jobs could expand both their work roles and social networks, but should be cautious with reducing their work roles. While these activities might have apparent direct benefits, they are associated with work withdrawal and could have longer-term negative implications for ones' psychological attachment to their organization. In addition, approach role crafting generally had considerably more positive, and less negative, outcomes than did avoidance role crafting, suggesting that approach-oriented changes are superior options.

Resource Crafting

Work organization captures the active design of systems and strategies to organize the tangible elements of work, and can involve managing behavior or physical surroundings. The resource-based literature has presented concepts of increasing structural (or physical) resources. However, these discussions have lacked specificity and tended to relate to the acquisition of resources, and many of these measures have put a disproportionate focus on learning and feedback or advice seeking. We propose that through work organization individuals create additional resource value for themselves through a reconfiguration of the current resources available to them in their current jobs. Work organization is positively related to overall performance (including specific dimensions of efficiency and work process improvement), perceived impact, and engagement.

Adoption represents the active and goal-directed use of technology and other sources of knowledge to alter the job and enhance a work process. Like work organization, adoption extends the discussions of increasing resources from the resource-based perspective. However, adoption considers how workers bring new resources into their jobs. While recent discussions on seeking resources have addressed this general action, they have often failed to specifically account for the fact that individuals will build tangible resources into their job by adopting new technologies or implementing new knowledge. Through this additional specification, the concept of adoption takes a much broader perspective on how workers can bring resources into their jobs. Adoption was related to general performance (including elements of efficiency, teamwork, and work improvement), reduced work–home conflict, and cognitive engagement.

Metacognition represents the autonomous task-related cognitive activity involving organization, sensemaking, and the manipulation of one's own psychological state. It draws on various concepts of cognitive crafting. However, job crafting research has not focused nearly as much attention on the cognitive forms of job crafting as it has on the task, relational, and resource-acquisition-based forms of job crafting. Our data suggest a considerable amount of new content that should be considered under the domain of metacognition. This content includes affective or cognitive self-regulation, self-allowances, purposeful or proactive focus, systematic mental approaches to work, cognitive task mapping, and other systematic cognitive self-management practices (e.g., problem solving, reprioritization, and mental preparation). The lack of a significant relationship between metacognition and outcomes in Study 1 could suggest metacognition might be most valuable as a high-frequency activity, whereby it needs to happen in volume to meaningfully relate to outcomes. It is also possible that the outcomes of metacognition are more psychological and experiential compared to the strain outcomes we assessed in Study 1. Metacognition was positively related to employees' physical engagement in Study 2.

Withdrawal crafting involves the systematic removal of oneself, either mentally or physically, from a person, situation, or other form of stimuli through changes to one's job. The resource-based literature has presented multiple concepts of reduction that we feel can be integrated to represent a more general job

crafting activity of withdrawal. Through this integration of both reductions of hindering demands, social demands, and cognitive demands we present a unique avoidance form of resource crafting that is distinct from the mere reduction of hindering or social demands as a form of resource crafting. The job crafting research has yet to pay specific attention to the systematic reduction of cognitive demands, and these activities should be included in future quantitative measures of withdrawal crafting. Recent research has suggested that the outcomes of job crafting involving reduction, such as withdrawal crafting and work role reduction, remain unclear (Demerouti et al., 2015; Tims et al., 2012, 2013). Our results suggest that the effectiveness of avoidance crafting could be conditional, as withdrawal crafting related negatively to perceived impact, and related positively to both efficiency and work withdrawal.

The prediction of work process improvements suggests a valuable new function of job crafting, as it appears to support individual innovation and could be a behavioral mechanism of total quality management and process innovation programs popular within contemporary organizations. The results also provide quantitative evidence that adoption relates to reductions in work–home conflict. Adoption and work organization appear to be effective and accessible ways to acquire and develop resources within one's job to aid engagement and performance. These activities might benefit organizations with employees responsible for innovation as they represent adoption and work organization related to process improvements and engagement without any apparent negative implications. There also appear to be some performance efficiencies from withdrawal crafting, which should be done sparingly due to its negative relationship with enrichment and positive relationship to work withdrawal. Approach resource crafting generally had considerably more positive, and less negative, outcomes than did avoidance resource crafting. Workers should consider approach-oriented crafting strategies whenever possible.

Limitations

There were potential limitations in the Study 1 qualitative methods, where we requested examples of job crafting engaged in to increase efficiency and effectiveness and to decrease stress. Conversely, the specific questions allowed us to understand the rich content underlying specific types of job crafting, and reduced the possibility that participants would respond in a socially desirable manner. Concerns of bias are also partially allayed by the supportive results of Study 2. A potential limitation of Study 2 was the reliance on employee self-reports; however, the study was largely a replication of our findings from Study 1 and we did control for personal characteristics and social desirability. There were also limited items in some scales in both studies, as we tried to reduce respondents' fatigue. Future research should seek multiple sources of data and more comprehensive scales. In both studies, we sampled a variety of jobs. Future research should consider specific occupations to reduce error associated with different work requirements and conditions.

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APPENDIX A
Items Used in the Role–Resource Approach–Avoidance Job Crafting Measure

Work Role Expansion
Expand my role by providing opinions on important issues.
Expand my work activities to make sure I take care of myself.
Expand my work activities to acquire resources that will help me do my job.
Expand my work by adding activities to my job that ensure the quality of my deliverables.
Expand my work by adding activities to my job that enhance safety or security.
Social Expansion
Actively initiate positive interactions with others at work.
Actively work to improve my communication quality with others at work.
Actively develop my professional network at my job.
Actively work to improve the quality of group interactions.
Work Role Reduction
Find ways to get others to take my place in meetings.
Find ways to outsource my work to others outside my group.
Find ways to reduce the time I spend in meetings.
Find ways to bypass time-consuming tasks.
Work Organization
Create structure in my work processes.
Create organization in my work environment.
Create structure in my work schedule.
Create plans and prioritize my work in an organized manner.
Adoption
Use new knowledge or technology to enhance communication.
On my own, seek training on new technology.
On my own, seek training to improve my work.
Use new knowledge or technology to automate tasks.
Use new knowledge or technology to structure my work.
Metacognition
Use my thoughts to put myself into a good mood at work.
Use my thoughts to get me out of a bad mood at work.
Use my thoughts to help me focus and be engaged at work.
Use my thoughts to create a personal mental approach to work.
Use my thoughts to help me prepare for future work I will be doing.
Withdrawal
Work in a way that allows me to avoid others at work.
Work in a way that allows me to avoid interacting with people when working.
Work in a way that allows me to avoid bothersome tasks involved in my work.

Notes: Items were assessed with a five-point frequency scale where 1 = "Never" and 5 = "All of the Time."