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**Exploring possible trade-offs between organizational performance and employee well-being: The role of teamwork practices**

**Abstract**

There is growing evidence linking teamwork practices to performance outcomes. However, critics have raised concerns that such outcomes are achieved at the expense of increased job demands and stress among workers. Using large data from a representative sample of British workplaces (N = 4311 workers in 664 workplaces), this study explores the pattern of relationships between teamwork practices, organizational performance, and employee well-being. The study draws on a mutual gains model that links teamwork practices to organizational performance via affective commitment, and a conflicting outcomes model associated with high job demands and job-related anxiety. The study also examines an interactive outcomes model that integrates the mutual gains and conflicting outcomes models. The study reports evidence that the performance gains of teamwork practices may actually come at the cost of increased job demands and job-related anxiety. Nevertheless, these adverse outcomes tend to weaken at higher levels of affective commitment.

**Keywords** Teamwork practices, organizational performance, affective commitment, perceived job demands, stressful work, and well-being.

## **Introduction**

As fundamental units of performance in contemporary workplaces, work teams represent a dominant feature in human resource management (HRM). Work teams are designated groups of two or more individuals who coordinate each other's work and interact adaptively towards achieving shared organizational objectives (Ogbonnaya et al., 2018; Van der Vegt et al., 2000; Wageman, 1995). Managing work teams involves teamwork practices such as task interdependence, joint decision-making, and shared responsibility for specific goals and objectives. These practices are associated with both performance-related effects (e.g., Campion et al., 1996; DeVaro, 2008; Von Bonsdorff et al., 2015; Wageman, 1995) and psychological or affective outcomes (e.g., Van der Vegt et al., 2000; Van Mierlo et al., 2005; Williams, 1998). When applied consistently, teamwork practices provide the underlying social structure for workers to support one another and accomplish more tasks than they could on their own (Batt, 2004; Wageman, 1995). Workers can integrate a wide variety of skills, adopt creative methods in solving problems, and achieve performance improvements for the organization (Hollenbeck et al., 2004).

While existing research has documented the performance effects of teamwork practices, it is taken for granted that work teams often experience stressful patterns of work (Cruz and Pil, 2011; Haber, 2016; Kalleberg et al., 2009). Some studies indicate that the presumed benefits of teamwork practices are actually attained at the expense of high job demands and stress among employees (Barker, 1993; Godard, 2001; Parker and Slaughter, 1995; Robertson et al., 1992). When employers invest time, effort, and resources towards developing effective work teams, they do so ultimately to maximize employees' input and boost organizational performance (Babson, 1995; Parker and Slaughter, 1995). Consequently, employees are induced to work too hard or too much under stressful conditions (Robertson et al., 1992). These critical arguments remain at the very heart of HRM scholarship and highlight

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the possibility of a complex pattern of relationships between teamwork practices, organizational performance, and employee well-being.

The present study explores, for the first time, the role of teamwork practices in understanding the nature of possible trade-offs between organizational performance and employee well-being (see Figure 1). The study measures teamwork practices by three main characteristics: interdependent working, joint decision-making, and shared responsibility for outcomes. On one hand, teamwork practices promote positive employee attitudes (e.g., affective commitment), leading to enhanced organizational performance. This argument aligns with the mutual gains model, stipulating a ‘win-win’ situation for both the organization and employees (Ogbonnaya and Messersmith, 2018; Van de Voorde et al., 2012). Conversely, teamwork practices can induce perceptions of work as being more intense, leading to adverse well-being consequences for employees (e.g., increased job-related anxiety). This alternative perspective, based on the conflicting outcomes model, links teamwork practices to unfavourable outcomes for workers (Ogbonnaya and Valizade, 2015; Ramsay et al., 2000).

Furthermore, the study develops an ‘interactive outcomes model’ connecting the mutual gains and conflicting outcomes perspectives. The premise of this model is that the mediating processes of mutual gains and conflicting outcomes – i.e., affective commitment and perceived job demands, respectively – can influence each other. For example, an individual might experience a greater sense of organizational attachment, and at the same time, perceive his/her job as being more intense. Thus, there is a possible interaction between affective commitment and perceived job demands, which may affect both organizational performance and employee well-being. Along these lines, the present study examines whether the positive indirect relationship between teamwork practices and organizational performance via affective commitment is stronger at higher levels of job demands. Here, demanding work is seen to provide an opportunity for enhanced learning, goal attainment, and greater performance

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(LePine et al., 2005). The study then examines whether the positive indirect relationship between teamwork practices and job-related anxiety via perceived job demands is weaker at higher levels of affective commitment. In other words, affective commitment may offset any harmful well-being consequences of perceived job demands (Schmidt and Diestel, 2012).

The present study contributes to the much debated question of whether the set of HRM activities aimed at improving organizational performance is perhaps the same that promotes employee well-being (Guest, 2017; Haber, 2016; Van De Voorde et al., 2012). Indeed, employers are faced with the dilemma of investing in performance-enhancing activities, while giving less priority to practices that improve well-being (Guest, 2017). As much as teamwork practices are worth pursuing, perhaps, for their performance-related gains, their use could also induce work intensity and undermine workers' well-being. The present study lays the theoretical groundwork for understanding possible trade-offs between the performance and well-being consequences of teamwork practices. It highlights the need for employers to embrace a more balanced HRM strategy aimed at promoting organizational performance, while also minimizing any adverse well-being effects on workers.

*–Insert Figure 1–*

### **Theoretical background and hypotheses**

Work teams are among the most common job design features in many organizations (Hollenbeck et al., 2004). They operate by fundamental principles of synergy, mutual support, and information exchanges among members (Ogbonnaya et al., 2018; Wageman, 1995). There are at least two main characteristics of collaborative work teams: task interdependence and outcome interdependence. Task interdependence reflects the extent to which team members depend on each other's work and make collective decisions on how important outcomes are to be achieved (Hollenbeck et al., 2004). Outcome interdependence reflects the degree to which goals and outcomes are determined by team members' collective performance (Van der Vegt

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et al., 2000; Shaw et al., 2000). The set of teamwork practices examined in the present study covers aspects of task (e.g., interdependent working and joint decision-making) and outcome (e.g., shared responsibility for specific products or services) interdependence.

Another important attribute of work teams is that they operate within a multilevel context involving individual- and organizational-level characteristics (Klein and Kozlowski, 2000). At the individual level, team processes are characterized by team members' idiosyncratic assessments of group activities (Shaw et al., 2000; Van der Vegt et al., 2000). Team processes at this level are referred to as configural team characteristics, including individuals' perspectives on the nature and quality of interpersonal relationships within the group (Klein and Kozlowski, 2000; Molleman, 2005). At the organizational level, team processes are defined in terms of the structural boundaries within which the team operates. Team processes at this level are referred to as global team characteristics, including objective and easily observable properties of the team as a whole (Klein and Kozlowski, 2000). In the present study, teamwork practices are conceptualized as global team characteristics, measured by managerial respondents' reports about the presence or absence of such practices at the workplace. The goal is to illustrate how the use of teamwork practices might explain some variability in both organizational performance and employee well-being.

Much of the literature (e.g., Campion et al., 1996; Devaro, 2008; Von Bonsdorff et al., 2015; Wageman 1995) has linked teamwork practices to performance-related outcomes – in fact, performance gains are among the main reasons why employers invest time, effort and resources towards ensuring effective work teams (Von Bonsdorff et al., 2015). However, when it comes to well-being outcomes, critics have raised concerns that put the effects of teamwork practices into question. It thus remains to be seen whether teamwork practices promote mutual gains or conflicting outcomes.

***Teamwork practices and mutual gains***

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The logic behind the mutual gains model is that employers and employees benefit from HRM implementation (Valizade et al., 2016). In other words, the primary goal of HRM activities is to motivate employees, develop relevant skills, and bring about performance improvements for an organization (Applebaum and Blatt, 1994; Boxall and Macky, 2009). The likely benefits for employers include sustained competitive advantage, improved productivity and financial performance. For employees, the likely benefits are better quality jobs, opportunities to develop relevant skills, job satisfaction and commitment.

The literature on team working has shown considerable support for the mutual gains argument. Studies have shown that team working provides scope for employees to interact cohesively, maximize complementary skills, and inspire one another towards higher levels of performance (e.g., Van Mierlo et al., 2005; Williams, 1998). Working collaboratively in teams also allows employees to establish stronger interrelationships with their peers, support each other, and achieve both greater levels of productivity and satisfaction (Ogbonnaya et al., 2018). Proponents refer to this as a ‘win-win’ situation because organizational performance is enhanced through positive employees’ perceptions of work and the organization as a whole (Applebaum and Blatt, 1994; Macky and Boxall, 2008).

The present study identifies employees’ affective commitment as an important employee-related variable through which teamwork practices might improve organizational performance. Affective commitment represents one’s level of emotional attachment towards the job or the organization as a whole (Lincoln and Kalleberg, 1990). There is evidence to suggest various forms of team working improve employees’ affective commitment. Van Mierlo et al. (2005), in their qualitative review of the literature, explained that team working improves commitment because it creates an enabling social climate for members to experiment with new ideas, tasks and responsibilities. In support, Van Der Vegt et al. (2000) argued that the fundamental benefit of team working is to establish a social context for individuals to blend

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complementary strengths. This social context, in turn, fosters feelings of camaraderie or belongingness among employees, leading to greater levels of affective connections toward the organization.

The literature on team working and positive employee outcomes have often relied on social exchange theory, according to which supportive workplace practices can induce a type of positive reciprocity characterized by favourable workers' behaviours (Eisenberger et al., 1990). Teamwork practices such as task interdependence and collective decision-making connote workplace supportiveness because they provide scope for employees to assist one another and exercise collective control over assigned tasks (Ogbonnaya et al., 2018). When implemented effectively, teamwork practices stimulate perceptions that the employer values and cares about employees' welfare. In turn, employees might feel obliged to reciprocate through higher levels of commitment or positive behaviours for the greater good of the organization (Gould-Williams, 2003; Paré and Tremblay, 2007). Against this backdrop, we might expect a positive direct relationship between teamwork practices and employees' affective commitment.

*Hypothesis 1: Teamwork practices are positively associated with employees' affective commitment.*

In addition to improving employees' affective commitment, teamwork practices are expected to indirectly enhance organizational performance. In fact, a key tenet of the mutual gains model is that positive employee attitudes play an important role in explaining the links between employee involvement and organizational performance (Van De Voorde et al., 2012). When employers invest time and resources towards establishing a supportive work environment for employees, they send positive signals that suggest employees are a major source of competitive advantage for the organization. Employees' receive these signals as positive treatment from the employer and respond in ways consistent with organizational



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performance (Gould-Williams, 2003). Teamwork practices may transmit positive signals in a number of ways. For example, they allow employees to collaborate with their peers and make more efficient use of collaborative effort (Ogbonnaya et al., 2018). Employees can also influence their jobs more directly and focus their effort towards desirable goals (van Mierlo et al., 2005). These processes improve employees' sense of allegiance and willingness to stay committed to the organization, leading to improved levels of performance (Paré and Tremblay, 2007).

*Hypothesis 2: Teamwork practices indirectly increase organizational performance by improving employees' affective commitment.*

### ***Teamwork practices and conflicting outcomes***

Contrary to the mutual gains view, the conflicting outcomes model depicts a sceptical outlook on the links between HRM implementation and employee well-being (Van de Voorde et al., 2012). Accordingly, employers are constantly faced with labour market competition and economic threats that steer them towards adopting a 'hard' people-management approach (Ogbonnaya et al., 2017; Ramsay et al., 2000). This approach is exploitative as employees are exposed to stressful work patterns, and their well-being placed under considerable risks. In the conflicting outcomes model, perceived job demands represent the primary cause of ill-being among employees (Kroon et al., 2009; Macky and Boxall, 2008; Ogbonnaya et al., 2017). Perceived job demands refer to individuals' self-assessments of the amount of effort expended during work activity (Boxall and Macky, 2014). Common indicators of perceived job demands include self-reports of work overload, work-related pressure and long working hours (Burke et al., 2010).

The notion of conflicting outcomes has been applied to team working, specifically in the context of management-by-stress theory (Babson, 1995; Haber, 2016; Parker and Slaughter, 1988; Robertson et al., 1992). The premise of this theory is that work teams are designed to

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maximize employees' productivity, often through setting high-performance targets, increased job demands, and long working hours (Conti et al., 2006; Haber, 2016). Management-by-stress theory derives from the "Japanese Production Management" (JPM) system, rooted in the 'lean production' philosophy (Parker and Slaughter, 1988; 1995). The JPM system operates on the principle that work teams are essential ingredients for organizational success. Workers are organized into groups of two or more individuals that perform complementary tasks and meet regularly to solve complex problems (Conti et al., 2006). The caveat, however, as argued by proponents of management-by-stress theory, is that workers are expected to perform smarter, harder or even more intensely towards achieving higher standards of work (Babson, 1995).

Management-by-stress theory further posits that work teams serve a dual purpose: as a social structure for promoting collaborative work, and as a system for workers to monitor one another (Babson, 1995; Robertson, et al., 1992). The latter indicates that work teams are likely to redistribute performance pressures amongst each other. In fact, work teams may develop a type of peer monitoring system in which members hold themselves highly accountable or scrutinize each other's actions to boost performance. Barker (1993) described this as a concertive control system, or a self-monitoring process in which high-handed behaviours within the team are guided by an agreed set of performance norms. Where work teams depend on each other to accomplish assigned tasks, concertive control allows members to exert strong self-disciplining effects on each other, leading to peer pressure to reinforce high-performance standards (Godard, 2001). These processes intensify work because team members are compelled to be super-involved in team activities, or, otherwise, face the wrath of the control system (Barker, 1993, p. 432). Given such circumstances, intensified job demands become almost inevitable.

*Hypothesis 3: Teamwork practices are positively associated with employees' perceived job demands.*

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Another important aspect of management-by-stress theory is that any experience of stressful work among individuals may in turn undermine their psychological health and well-being (Haber, 2016; Parker and Slaughter, 1995). As explained by Robertson et al. (1992), work teams have the capacity to learn collectively and coordinate each other's work, but high performance expectations may put their well-being at considerable risks (e.g., increased job-related anxiety). In support, Godard's (2001) study of Canadian workers found evidence that an organization's desire to maximize workers' effort creates a dissatisfying, high-stress environment that manifests when workers influence each other's work in team settings. Kalleberg et al.'s (2009) Norwegian study of 2,216 workers reports higher levels of stress and physical exhaustion among individuals involved in team-based activities. Thus, if teamwork practices increase work intensity as predicted in Hypothesis 3, we might expect a significant indirect relationship between teamwork practices and job-related anxiety via perceived job demands.

*Hypothesis 4: Teamwork practices indirectly increase job-related anxiety by increasing employees' perceived job demands.*

### ***Teamwork practices and interactive outcomes***

Although much of HRM research has examined the mutual gains and conflicting outcomes models independently, the mediating processes for these models are not necessarily discrete. For example, employees who report a greater sense of emotional attachment towards the organization might also experience stressful work or perceive that the job requires them to work very hard (Glazer and Kruse, 2008; Jamal, 2011; Schmidt and Diestel, 2012). Thus, high levels of affective commitment do not necessarily preclude perceptions of work intensity, and vice versa. Going by this, the present study develops an 'interactive outcomes model' based on the idea that the mediating processes of mutual gains and conflicting outcomes can occur simultaneously and influence each other. The model examines whether the performance and

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well-being consequences of teamwork practices depend on an interaction between employees' affective commitment and perceived job demands.

Affective commitment and perceived job demands are expected to interact in two possible ways. First, at higher levels of perceived job demands, any positive indirect relationship between teamwork practices and organizational performance via affective commitment (i.e., Hypothesis 2) will be stronger. From this standpoint, perceived job demands represents a 'challenge' rather than a 'hindrance' towards goal attainment (Jamal, 2011; LePine et al., 2005). According to LePine et al. (2005), work-related stimuli that place demands on employees can be distinguished as 'hindrance' or 'challenge' stressors. Hindrance stressors are work demands appraised as having the potential to impair one's personal growth, sense of accomplishment, and performance. Challenge stressors, on the other hand, are appraised as having the potential to increase one's effort, promote personal growth, and generate performance gains. Research indicates that committed workers are more likely to appraise job demands as a challenge rather than a hindrance (e.g., Jamal, 2011). For such committed workers, demanding work may therefore provide an opportunity to exert greater effort on behalf of the organization, leading to higher levels of performance.

*Hypothesis 5: At higher levels of perceived job demands, the positive indirect relationship between teamwork practices and organizational performance via affective commitment will be stronger.*

Second, at higher levels of affective commitment, any positive indirect relationship between teamwork practices and job-related anxiety via perceived job demands (i.e., Hypothesis 3) will be weaker. The logic here is that affective commitment will minimize any adverse consequences of work intensity on employee well-being (Glazer and Kruse, 2008; Nesje, 2017; Schmidt and Diestel, 2012). Nesje (2017) explained that affectively committed employees are able to cope with the difficulties and anxieties affecting their work, not least

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because they share strong psychological bonds with the organization. In support, Schmidt and Diestel (2012) argued that affective commitment represents a protective resource that fosters employees' sense of emotional stability, security, and belongingness. At higher levels of such a protective resource, employees feel empowered to take more positive actions in response to demanding work circumstances. Employees are also able to manage their performance expectations more effectively, and cope better with stress-related outcomes (Glazer and Kruse, 2008).

*Hypothesis 6: At higher levels of affective commitment, the positive indirect relationship between teamwork practices and organizational performance via perceived job demands will be weaker.*

## **Methodology**

The present study uses large data from two components of the 2011 British Workplace Employment Relations Survey (2011 WERS): the management and employee surveys. The 2011 British WERS is the sixth in a series of national surveys funded partly by the British government to understand changes in employment relations across Britain. The management survey includes face-to-face interviews with a senior manager whose daily responsibility concerns industrial relations, employment relations or personnel matters. In the absence of an employment relations manager, a senior person specializing in a different area such as finance was interviewed. The interviews were conducted in 2,680 workplaces with a response rate of 46 per cent. The employee survey includes self-completion questionnaires distributed to a random selection of workers in workplaces where the management interviews were conducted. The employee survey focused on workers' personal characteristics, workplace attitudes, and perceptions of well-being. A total of 21,981 questionnaires were completed and returned, giving a response rate of 50 per cent.

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For the present study, the management sample was reduced to workplaces where all (100%) employees worked in formally designated teams. This adjustment was necessary to ensure respondents in the present study worked in teams. The following question from the management survey was used: “What proportion of workers at this workplace work in formally designated teams”? Managerial respondents were asked to select from seven options: “All (100%)”, “Almost all (80-99%)”, “Most (60-79%)”, “Around half (40-59%)”, “Some (20-39%)”, “Just a few (1-19%)”, and “None (0%)”. A total of 1197 managers selected “All (100%)” for their respective workplaces. About 664 of these workplaces had corresponding employee-level data and were thus used for the study. Once the management and employee samples were merged, the final sample size was 4311 workers in 664 workplaces. Around 57% of the workplaces are private sector establishments in such industries as manufacturing, transport and communication, construction and financial services. A greater proportion (71%) of these workplaces are small and medium-sized enterprises, employing around 10 to 250 workers. The average age of employees across workplaces is between 40 to 59 years and their average number of years in employment is five years or more. The median number of workers in sampled workplaces is 8 (range is 2 to 20).

### *Measures*

*Teamwork practices* were measured by three items from the 2011 WERS management survey (see Table 1). These items are consistent with existing measures of task and outcome interdependence among work teams (e.g., Campion et al., 1996; Cruz and Pil, 2011; Van Der Veegt et al., 2000) and cover three main activities: interdependent working, joint decision-making, and shared responsibility for products or services. The items were measured dichotomously to ascertain as objectively as possible whether each activity is present (‘Yes’ = 1) or absent (‘No’ = 0) in the design of work teams. Latent trait analysis (Heinen, 1996) was applied to validate the factorial structure of these binary items: Chi-Square ( $\chi^2$ ) = 1035.81;

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degrees of freedom ( $df$ ) = 76;  $p$ -value < 0.001; Root Mean Square Error of Approximation (RMSEA) = 0.00; Comparative Fit Index (CFI) = 1.00; Tucker–Lewis Index (TLI) = 1.00; Weighted Root Mean Square Residual (WRMR) = 0.00.

*Affective commitment* was measured by three items from the 2011 WERS employee survey (see Table 1). These items are consistent with the commitment scale developed by Lincoln and Kallenberg's (1990).

*Perceived job demands* was measured by three items from the 2011 WERS employee survey (see Table 1). Items were selected following precedents in previous research (e.g., Boxall and Macky, 2014; Burke et al., 2010). The first two items measure the amount of effort expended in work activity, and the third item relates to perceived time demands.

*Organizational performance* was measured by three items from the 2011 WERS management survey (see Table 1). These items cover three aspects of organizational performance: financial performance, labour productivity and quality of product or service. Each item was measured by a manager's assessment of how well the workplace is performing compared with other workplaces in the same industry.

*Job-related anxiety* was measured by three items from the 2011 WERS employee survey (see Table 1). The items are from Warr's (2007) 'anxiety-contentment' well-being scale that estimates how much of the time respondents have felt tense, worried and uneasy due to their job.

*Control variables* for the study include workers' personal characteristics: gender; and age (five bands: '29 years and under', '30-39 years', '50-59 years', or '60 years and over', reference is '40-49 years'). This set of variables has been shown to influence perceived work intensity (Burke et al., 2010) and well-being (Warr, 2007). The second set of control variables includes job characteristics: tenure (five categories: 'less than one year', 'one to less than two years', 'two to less than five years' or 'five to less than ten years', reference is '10 years and

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over’); and contract type. The third set of control variables includes features of the work environment: workplace size (five categories: ‘less than 10 workers’, ‘50 to less than 250 workers’, ‘250 to less than 1000 workers’, or ‘1000 workers or more’, reference is ‘10 to less than 50 workers’); union membership; and industrial sector. These contextual factors are important determinants of how teams operate within the work environment (Haber, 2016; Von Bonsdorff et al., 2015).

*–Insert Table 1–*

### **Data analysis**

Due to the nested nature of the 2011 WERS, Intraclass Correlation Coefficients 1 and 2 (ICC1 and ICC2) were tested to ascertain the relative consistency of employee-level data (Bliese, 2000, p. 354). ICC1 values for all employee outcomes ranged from 0.05 to 0.15. This indicates that between five to fifteen per cent of the variability in employees’ responses are attributable to workplace characteristics. ICC2 values for these items ranged from 0.35 to 0.65, suggesting up to 65 percent consistency in employees’ reports about their respective workplaces.

Data were analysed by structural equation modelling (SEM) with latent variables. The Mplus software program (version 7.1) was used together with the robust maximum likelihood estimator (MLR). The MLR estimator was preferred as it adjusts for errors in measures, accommodates varied response scales (e.g., continuous, binary, and ordinal data), and accounts for non-normality in the data (Muthén and Muthén, 2010). The SEM procedure was estimated on the basis of multilevel analysis to account for clustering effects – thus, teamwork practices and organizational performance were specified at the workplace level, whereas affective commitment, perceived job demands and job-related anxiety were specified at the individual level. This multilevel approach follows the random intercept method whereby intercepts of the



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regression lines were allowed to vary randomly across workplace units, but regression coefficients were not allowed to vary.

The SEM measurement component was estimated to ensure observed items are appropriate indicators of presumed latent constructs. Overall goodness-of-fit was adequate:  $\chi^2 = 419.672$ ;  $df = 80$ ;  $p < 0.001$ ; RMSEA = 0.03; CFI = 0.95; TLI = 0.94; Standardized Root Mean Square Residual (SRMR) = 0.04. All unrestricted factor loadings were significant and in the hypothesized direction. A one-factor measurement model was examined to verify all observed items were not reducible to a single latent variable. As expected, this model failed to fit the data adequately: RMSEA = 0.23; CFI = 0.48; TLI = 0.31; SRMR = 0.16. Furthermore, a two-factor measurement model, involving teamwork practices and organizational performance as one latent construct and employee outcomes as a second latent construct, failed to fit the data adequately: RMSEA = 0.10; CFI = 0.42; TLI = 0.33; SRMR = 0.13. These alternative models help to establish the discriminant validity of constructs and minimize concerns of common method variance.

The unmeasured latent method construct test (Podsakoff, MacKenzie, Lee & Podsakoff, 2003) was further examined to minimize concerns of common method variance. This test includes a measurement model in which (i) latent variables for all constructs were specified on a second-order common latent factor, (ii) all regression paths from measurement items to this common latent factor were constrained to be equal, and (iii) the variance of the common latent factor was fixed at one. The difference in model fit indices between this model and a measurement model without the common latent factor was assessed and determined to be considerably above the recommended cut-off value of 0.001 ( $\Delta$ RMSEA = 0.02;  $\Delta$ CFI = 0.01;  $\Delta$ TLI = 0.01; SRMR = 0.01). The total amount of variance extracted by the common latent factor is 0.29, below the recommended threshold.

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Hypotheses 1 to 4 were examined simultaneously by testing the following sets of structural equations: (i) regression of affective commitment and perceived job demands respectively on teamwork practices; (ii) regression of organizational performance on affective commitment and teamwork practices; (iii) regression of job-related anxiety on perceived job demands and teamwork practices; and (iv) estimates for the indirect paths from teamwork practices to organizational performance and job-related anxiety, respectively. Indirect relationships ( $\alpha\beta$ ) were estimated by the product-of-coefficients method, which is rigorous and overrides inherent difficulties associated with the causal steps approach (Hayes, 2009). The  $\alpha\beta$  coefficient corresponds to the product of the regression path between the predictor and mediator ( $\alpha$ ), and the regression path between the mediator and outcome ( $\beta$ ). Statistical significance and confidence intervals for indirect relationships were validated by the multivariate delta method (Casella and Berger, 2002).

Hypotheses 5 and 6 were examined by adjusting the above structural equations as follows: (i) specifying the interaction term between affective commitment and perceived job demands; (ii) regressing affective commitment and perceived job demands respectively on teamwork practices; (iii) regressing organizational performance on teamwork practices, affective commitment, perceived job demands, and the interaction term; (iii) regressing job-related anxiety on teamwork practices, affective commitment, perceived job demands, and the interaction term; and (iv) estimating the conditional indirect effects. A conditional indirect effect (or moderated mediation effect) is one in which the indirect relationship between a predictor and outcome via a mediator is moderated by another variable (Edwards and Lambert, 2007). The following mathematical expression was applied in the present analysis:  $(\beta_1 + \beta_3) * \alpha_1$ ; where ' $\beta_1$ ' represents the regression coefficient between the mediator and outcome; ' $\beta_3$ ' represents the regression coefficient between the interaction term and outcome; and ' $\alpha_1$ ' represents the regression coefficient between the predictor and mediator.

## Results

Bivariate correlations among study variables are reported in Table 2. Table 3 shows standardized regression coefficients and residuals for all direct, indirect and interactive relationships involving teamwork practices, organizational performance, job-related anxiety, affective commitment and perceived job demands. As shown in Table 3, teamwork practices are directly and positively associated with affective commitment ( $\beta = 0.08, p < .05$ ), perceived job demands ( $\beta = 0.11, p < .05$ ), and organizational performance ( $\beta = 0.18, p < .05$ ), but the relationship with job-related anxiety is not significant ( $\beta = -0.05, p > .05$ ). The positive associations of teamwork practices on affective commitment and perceived job demands provide full support for Hypotheses 1 and 3, respectively. Thus, teamwork practices increase both employees' sense of emotional attachment toward the organization, and also their experience of stressful work.

–Insert Table 2–

–Insert Table 3–

Table 3 shows the indirect path from teamwork practices to organizational performance via affective commitment is significant and positive ( $\alpha\beta = 0.01, p < 0.05$ ). Although the size of this indirect effect is somewhat marginal, it corroborates the mutual gains prediction of Hypothesis 2 – that teamwork practices induce higher levels of commitment among employees, leading to performance improvements for an organization. The conflicting outcomes prediction of Hypothesis 4 is also supported given that the indirect path from teamwork practices to job-related anxiety via perceived job demands is significant and positive ( $\alpha\beta = 0.06, p < 0.05$ ). Thus, any experience of high job demands associated due to teamwork practices may cause detrimental effects on employee well-being.

Table 3 reveals some important nuances as regards the interaction between affective commitment and perceived job demands. For example, the positive indirect path from

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teamwork practices to organizational performance via affective commitment is not conditional on perceived job demands. Thus, Hypothesis 5 is not supported. Conversely, the positive indirect path from teamwork practices to job-related anxiety via perceived job demands is conditional on employees' affective commitment. The nature of this conditional indirect effect is illustrated graphically by the simple slopes plot in Figure 2. This plot depicts the precise regions of statistical significance based on three values (low, medium and high) of affective commitment. At higher levels of affective commitment, the indirect path from teamwork practices to job-related anxiety via perceived job demands is significantly weaker (thus, Hypothesis 6 is fully supported).

*–Insert Figure 2–*

## **Discussion**

Although much of the literature has linked teamwork practices to performance-related outcomes, critics have raised concerns that such outcomes may actually come at the cost of increased job demands and poor well-being among employees. Using large data from a representative sample of British workplaces, the present study sought to uncover the pattern of relationships between teamwork practices, organizational performance and employee well-being. Owing to the mutual gains paradigm, the study found evidence that teamwork practices promote employees' sense of emotional attachment towards the organization. When two or more employees work together in an interdependent fashion, they inspire one another and help stimulate enjoyable and affective workplace experiences (Shaw et al. 2000). Employees are able to blend complementary strengths and share collective responsibility for assigned tasks, leading to a deeper sense of work dedication. These arguments highlight a growing consensus that effective team-management activities influence not only employees' cooperative effort but also their affective disposition towards the job (Ogbonnaya et al., 2018; van Mierlo et al., 2005; Williams, 1998).

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Another important conclusion from the present study is that any experience of affective commitment due to teamwork practices might induce performance improvements for the organization. In support, DeVaro (2008) noted that the performance gains of team working emanate from unique opportunities for employees to develop interpersonal skills, work cohesively, and engage in constructive information sharing activities. When implemented effectively, teamwork practices transmit positive signals about the organization's 'goodwill' and supportiveness towards employees (Ogbonnaya et al., 2018). These signals influence employees' deep emotional connections with the work environment, prompting them to exert themselves on the organization's behalf (Gould-Williams, 2003). Taken together, teamwork practices foster the process of mutual gains, adding value to both employee performance and organizational success.

Despite the foregoing optimistic viewpoint, the present study found a positive relationship between teamwork practices and perceived job demands. Thus, teamwork practices develop employees' skills and provide opportunities for them to perform well; nevertheless, such practices may also induce the perception of work as being more intense. This finding corroborates the fundamental principle of conflicting outcomes – that is, employee involvement activities drive performance at the expense of intensified job demands (Ogbonnaya and Valizade, 2015). Teamwork processes may indeed support a philosophy of worker collaboration and shared responsibility for assigned tasks, yet outcomes may be achieved through pressure on workers to perform smarter, and perhaps, more intensely (Kalleberg et al., 2009; Robertson, et al., 1992). In support, Parker and Slaughter (1995) explained that the team concept represents a critical avenue for maximizing workers' effort and getting as much work done at the cost of increased levels of stress.

Building further on the conflicting outcomes paradigm, the present study revealed that the experience of job demands due to teamwork practices might in turn increase job-related

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anxiety among employees. Not only do team-based activities expose workers to stressful work patterns, their mental health and well-being are also placed at considerable risks (Babson, 1995; Parker and Slaughter, 1995; Robertson, et al., 1992). These findings thus shed new light on debates as to whether the well-being effects of teamwork practices are mainly positive or in fact negative (Barker, 1993; Haber, 2016). When viewed in terms of organizational performance, team working provides an important framework for developing a more effective organization. However, once the adverse effects of work intensity is taken into proper account, team working is seen to have a potential downside, associated with harmful consequences for employee well-being. Along these lines, Godard (2001) concluded that the productivity gains of group-based forms of work may be accompanied by heightened work-related stress.

With regards to interactive outcomes, the present study found no evidence that the positive indirect relationship between teamwork practices and organizational performance via affective commitment was stronger when job demands were high. Put differently, at higher job demands there was no added performance-related value accruable from teamwork practices. By contrast, the positive indirect relationship between teamwork practices and job-related anxiety via perceived job demands was weaker at higher levels of affective commitment. Thus, employees' sense of emotional attachment towards the organization mitigates the potentially harmful effects of work intensity on employee well-being. This finding supports Schmidt and Diestel's (2012) argument that strong psychological bonds between employees and the work environment represent a protective resource for handling stressful work conditions. Such psychological bonds improve employees' sense of emotional stability and comfort, leading to a greater sense of resilience amidst stress-related events at work.

### **Theoretical implications**

The present study provides deeper insights into possible trade-offs between teamwork practices and outcomes at the organizational and individual levels. The study has shown, on

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one hand, that teamwork practices drive organizational performance by improving employees' sense of loyalty and emotional attachment towards the organization. Working in teams enables employees to interact cohesively and share expertise, leading to crucial outcomes for organizational success. On the other hand, teamwork practices may undermine employee well-being due to heightened job demands. Because employers are constantly faced with stiff competition and shrinking budgets amidst a harsh economic environment, they seek ways to maximize workers' skills through people-management activities such as teamwork practices. The caveat, however, is that workers are often induced to work too harder, and perhaps more intensely (Kalleberg et al., 2009; Parker and Slaughter, 1995). Echoing this, Kroon et al. (2009, p. 510) suggested that "management practices which aim at creating competitive advantage for the organization are at the costs of employee work intensification".

Although the present study has raised theoretical concerns regarding the well-being consequences of teamwork practices, it has nevertheless underlined the important role of affective commitment in mitigating high levels of stress among workers. Indeed, employees can simultaneously experience affective commitment and high job demands. That is to say, both variables may coexist and influence each other. When they do, affective commitment is seen to have buffering effects on high job demands and ill-being. With this in mind, the present study draws needed attention to the potential dark side of team-based processes. If scant research attention is paid to possible side effects of teamwork practices, how can we determine whether such practices influence employee well-being in a sustainable way? The present study calls for a more balanced view regarding the performance and well-being outcomes of teamwork practices.

### **Practical implications**

By examining possible trade-offs between the performance and well-being effects of teamwork practices, the present study has important practical implications. First, employers

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must recognize teamwork practices as activities likely to influence organizational performance and employee well-being differently. Teamwork practices can, for example, improve employees' collaborative effort and job performance; yet, they might induce unintended well-being consequences for employees. These divergent effects are not what we would normally expect, not least as work teams are typically viewed from a positive light; nonetheless, employers should think more carefully about the design and implementation of work teams. Rather than focusing on the performance gains of teamwork practices, employers should reassess the kinds of performance targets and job demands assigned to work teams, and ensure that teams have the right skillset to handle challenging work situations.

Another key message is for employers to create a conducive work environment where work teams feel encouraged to develop greater levels of emotional attachment towards the job. In designing work teams, it is vital to match the work context with resources that improve employees' team working, leadership, communication, and problem-solving skills. Although the present study has not specifically examined these resources in the context of team working, they are nonetheless crucial for improving employees' sense of emotional stability and productive capacity in teamwork situations.

### **Strengths, limitations and directions for future research**

The strength of this study lies in exploring the favourable and adverse aspects of teamwork practices. Using large data that cover the full range of occupations across Britain, the study has underlined the role of teamwork practices in ensuring adequate levels of organizational performance while also minimizing any potential harmful consequences for employee well-being. Despite these strengths, one important study limitation is that the use of archival data from the British WERS precluded a more comprehensive measurement of some study variables, particularly teamwork practices and perceived job demands. Notwithstanding, the study is thoroughly grounded in theory and findings are comparable to existing research



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(e.g., Cruz and Pil, 2011). Another potential shortcoming of this study, though common in organization research, is that its cross-sectional design provides only a 'snap-shot' rather than a 'causal' perspective on workers' team processes. Although relevant statistical steps were taken to minimize concerns of common-method bias, caution is advised in interpreting study results beyond the constraints of cross-sectional data.

A natural progression of the present study is to examine whether trade-offs between the performance and well-being effects of teamwork practices might be explained by other sources of stressful work. Indeed, the study has focused on perceived job demands as the primary source of stressful work among work teams; yet, other processes may be relevant. For example, work teams may experience stressful work due to role conflict, personality clashes, and a breakdown in social relationships. Considering the nature of task coordination and joint decision-making among work teams is typically non-hierarchical, members might experience discrepancies in the delegation of authority, particularly if team processes are not properly managed. Future research may also examine other possible moderators of the links between teamwork practices, intensified work, and employee well-being. Of particular interest is the moderating role of perceived support from management, defined as the extent to which individuals perceive that their employer respects, values, and cares about their welfare. Supportive managers are those that help workers in periods of difficulty, provide useful feedback to workers, and ensure that teams are able to work effectively together. At higher levels of such managerial support, we might expect significant reductions in stress and ill-being among work teams.

## References

- Applebaum, E. and Blatt, R. (1994). *The new American workplace: Transforming work systems in the United States* (Ithaca, New York, ILR Press).
- Babson, S. (1995). *Lean work: Empowerment and exploitation in the global auto industry*. Detroit, Michigan: Wayne State University Press.
- Barker, J. (1993). 'Tightening the iron cage: Concertive control in self-managing teams.' *Administrative Science Quarterly*, 38: 408–437
- Bliese, P. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In Klein, K. J., & Kozlowski, S. W. J. (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 3-90). San Francisco, CA: Jossey-Bass.
- Boxall, P. and Macky, K. (2009). 'Research and theory on high-performance work systems: progressing the high-involvement stream .' *Human Resource Management Journal*, 19: 3-23.
- Burke, R.J., Singh, P. and Fiksenbaum, L. (2010). 'Work intensity: Potential antecedents and consequences.' *Personnel Review*, 39: 347-360.
- Campion, M.A., Papper, E.M. and Medsker, G.J. (1996). 'Relations between work team characteristics and effectiveness: A replication and extension.' *Personnel Psychology*, 49: 429-452.
- Casella, G. and Berger, R.L. (2002). *Statistical inference*. Pacific Grove, CA: Duxbury Press
- Conti, R., Angelis, J., Cooper, C., Faragher, B. and Gill, C. (2006). 'The effects of lean production on worker job stress.' *International Journal of Operations and Production Management*, 26: 1013-1038.
- Cruz, K. and Pil, F. (2011). 'Team design and stress: A multilevel analysis.' *Human Relations*, 64: 1265–1289

## Teamwork practices, performance, and well-being

- DeVaro, J. (2008). 'The effects of self-managed and closely managed teams on labor productivity and product quality: An empirical analysis of a cross - section of establishments.' *Industrial Relations: A Journal of Economy and Society*, 47: 659-697.
- Edwards, J.R. and Lambert, L.S. (2007). 'Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis.' *Psychological Methods*, 12: 1-22
- Eisenberger, R., Fasolo, P. and Davis-LaMastro, V. (1990) 'Perceived organizational support and employee diligence, commitment, and innovation.' *Journal of Applied Psychology*, 75: 51-59.
- Glazer, S. and Kruse, B. (2008). 'The role of organizational commitment in occupational stress models.' *International Journal of Stress Management*, 15: 329-344.
- Godard, J. (2001). 'High performance and the transformation of work? The implications of alternative work practices for the experience and outcomes of work.' *Industrial and Labor Relations Review*, 54: 776-805
- Gould-Williams, J. (2003). 'The importance of HR practices and workplace trust in achieving superior performance: A study of public-sector organizations.' *The International journal of human resource management*, 14: 28-54.
- Guest, D. (2017). 'Human resource management and employee well-being: Towards a new analytic framework.' *Human Resource Management Journal*, 27: 22–38
- Haber, J. (2016). 'Institutionalized Involvement: Teams and stress in 1990s US Steel.' *Industrial Relations: A Journal of Economy and Society*, 55: 632-661.
- Hayes, A. (2009). 'Beyond Baron and Kenny: Statistical mediation analysis in the new millennium.' *Communication Monographs*, 76: 408–420
- Heinen, T. (1996). *Latent class and discrete latent trait models: Similarities and differences*. Thousand Oaks, California: Sage.

Teamwork practices, performance, and well-being

Hollenbeck, J.R., DeRue, D.S. and Guzzo, R. (2004). 'Bridging the gap between I/O research and HR practice: Improving team composition, team training, and team task design.'

*Human Resource Management*, 43: 353-366.

Jamal, M. (2011). 'Job stress, job performance and organizational commitment in a multinational company: An empirical study in two countries.' *International Journal of Business and Social Science*, 2: 20-29.

Kalleberg, A.L., Nesheim, T. and Olsen, K.M. (2009). 'Is participation good or bad for workers? Effects of autonomy, consultation and teamwork on stress among workers in Norway.' *Acta Sociologica*, 52: 99-116.

Klein, K.J. and Kozlowski, S.W. (2000). 'From micro to meso: Critical steps in conceptualizing and conducting multilevel research.' *Organizational Research Methods*, 3: 211-236.

Kroon, B., Van de Voorde, K. and Van Veldhoven, M. (2009). 'Cross-level effects of high-performance work practices on burnout: Two counteracting mediating mechanisms compared.' *Personnel Review*, 38: 509-525.

LePine, J.A., Podsakoff, N.P. and LePine, M.A. (2005). 'A meta-analytic test of the challenge stressor- hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance.' *Academy of Management Journal*. 48: 764-775.

Lincoln, J.R. and Kalleberg, A.L. (1990) *Culture, control and commitment*. Cambridge: Cambridge University Press

Macky, K., and Boxall, P. (2008). 'High-performance work systems and employee well-being: Does employee involvement really intensify work?' *Asia Pacific Journal of Human Resources*, 46: 38-55.

Molleman, E. (2005). 'The multilevel nature of team-based work research.' *Team Performance Management: An International Journal*, 11: 113-124.

Muthén, L. and Muthén, B. (2010). *Mplus user's guide*. Los Angeles, CA: Muthén and Muthén.

Teamwork practices, performance, and well-being

Nesje, K. (2017). 'Professional commitment: Does it buffer or intensify job demands?' *Scandinavian Journal of Psychology*, 58: 185-191.

Ogbonnaya, C. and Valizade, D. (2015). 'Participatory workplace activities, employee-level outcomes and the mediating role of work intensification.' *Management Research Review*, 38: 540-558.

Ogbonnaya, C. and Messersmith, J. (2018). 'Employee performance, well - being, and differential effects of human resource management subdimensions: Mutual gains or conflicting outcomes?' *Human Resource Management Journal*, doi.org/10.1111/1748-8583.12203

Ogbonnaya, C., Tillman, C. and Gonzalez, K. (2018). 'Perceived organizational support in health care: The importance of teamwork and training for employee well-being and patient satisfaction.' *Group & Organization Management*, 43: 475-503.

Paré, G. and Tremblay, M. (2007). 'The influence of high-involvement human resources practices, procedural justice, organizational commitment, and citizenship behaviors on information technology professionals' turnover intentions.' *Group & Organization Management*, 32: 326-357.

Parker, M. and Slaughter, J. (1988). *Choosing sides: Unions and team concept*. Boston: South End Press.

Parker, M. and Slaughter, J. (1995). Unions and management by stress. In S. Babson (Ed.), *Lean work: Empowerment and exploitation in the global auto industry* (pp. 43–53), Detroit: Wayne State University Press.

Podsakoff, P., MacKenzie, S., Lee, J. and Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88: 879–903.

## Teamwork practices, performance, and well-being

- Ramsay, H., Scholarios, D. and Harley, A. (2000). 'Employees and high-performance work systems: Testing inside the black box.' *British Journal of Industrial Relations*, 38: 501 – 531.
- Robertson, D., Rinehart, J. and Huxley, C. (1992). 'Team concept and kaizen: Japanese production management in a unionized Canadian auto plant.' *Studies in Political Economy*, 39: 77-107.
- Schmidt, K.H. and Diestel, S. (2012). 'The relation of self-control demands to job strain: The moderating role of organisational commitment.' *Applied Psychology*, 61: 479-497.
- Shaw, J.D., Duffy, M.K. and Stark, E.M. (2000). 'Interdependence and preference for group work: Main and congruence effects on the satisfaction and performance of group members.' *Journal of Management*, 26: 259-279.
- Valizade, D., Ogbonnaya, C., Tregaskis, O. and Forde, C. (2016). 'A mutual gains perspective on workplace partnership: Employee outcomes and the mediating role of the employment relations climate.' *Human Resource Management Journal*, 26: 351-368.
- Van der Vegt, G., Emans, B. and Van de Vliert, E. (2000). 'Team members' affective responses to patterns of intragroup interdependence and job complexity.' *Journal of Management*, 26: 633-655.
- Van de Voorde, K., Paauwe, J. and Van Veldhoven, M. (2012). 'Employee well-being and the HRM–organizational performance relationship: A review of quantitative studies'. *International Journal of Management Reviews*, 14: 391-407.
- Van Mierlo, H., Rutte, C., Kompier, M. and Doorewaard, H. (2005). 'Self-managing teamwork and psychological well-being review of a multilevel research domain.' *Group & Organization Management*, 30: 211-235.

## Teamwork practices, performance, and well-being

Von Bonsdorff, M.E., Janhonen, M., Zhou, Z.E. and Vanhala, S. (2015). 'Team autonomy, organizational commitment and company performance—a study in the retail trade.' *The International Journal of Human Resource Management*, 26: 1098-1109.

Wageman, R. (1995). 'Interdependence and group effectiveness.' *Administrative Science Quarterly*, 40: 145-180.

Warr, P. (2007). *Work, happiness, and unhappiness*. Mahwah, NJ: Lawrence Erlbaum.

Williams, T. (1998). 'Job satisfaction in teams.' *The International Journal of Human Resource Management*, 9: 782-799.

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**Table 1: Variables and descriptive statistics**

Variables	Mean	SD	Factor loadings	Cronbach's Alpha	Composite Reliability	Average variance extracted	Response scale
<i>Teamwork practices</i>							
Does the following statement apply to the way that team working operates at this workplace: Team members depend on each other's work to be able to do their job.	0.82	0.39	0.58				
Does the following statement apply to the way that team working operates at this workplace: Team members jointly decide how the work is to be done.	0.66	0.47	0.50	-	-	-	0 = "No" 1 = "Yes"
Does the following statement apply to the way that team working operates at this workplace: Teams are given collective responsibility for specific products or services	0.91	0.29	0.39				
<i>Affective commitment</i>							
I share many of the values of my organization	3.75	0.86	0.71				
I feel loyal to my organization	3.88	0.92	0.89	0.85	0.86	0.70	1 = "Strongly disagree" 5 = "Strongly agree"
I am proud to tell people who I work for	3.78	1.02	0.85				
<i>Perceived job demands</i>							
My job requires that I work very hard	4.23	0.77	0.57				
I never seem to have enough time to get my work done	3.36	1.10	0.74	0.62	0.63	0.46	1 = "Strongly disagree" 5 = "Strongly agree"
People in this workplace who want to progress usually have to put in long hours	3.29	1.04	0.35				
<i>Organizational performance</i>							
Compared with other workplaces in the same industry how would you assess your workplace's financial performance	3.67	0.79	0.60	0.71	0.72	0.54	1 = "A lot below average"



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Compared with other workplaces in the same industry how would you assess your workplace's labour productivity	3.62	0.74	0.80					5 = "A lot better than average"
Compared with other workplaces in the same industry how would you assess your workplace's quality of product or service	4.02	0.78	0.62					
<hr/>								
<i>Job-related anxiety</i>								
Thinking of the past few weeks, how much of the time has your job made you feel tense	2.66	1.03	0.76					
Thinking of the past few weeks, how much of the time has your job made you feel worried	2.18	1.05	0.87	0.85	0.85	0.70		1 = "Never" 5 = "All of the time"
Thinking of the past few weeks, how much of the time has your job made you feel uneasy	1.98	1.06	0.81					
<hr/>								
<i>Sample size: 4311 workers nested within 664 workplaces</i>								
<i>All factor loadings are standardized scores and significant at <math>p &lt; .001</math></i>								
<i>SD = Standard Deviation</i>								
<hr/>								

**Table 2: Bivariate correlations**

Variables	1	2	3	4
1 Teamwork practices	1			
2 Affective commitment	0.04**			
3 Perceived job demands	0.04**	0.07***		
4 Organizational performance	0.10***	0.12***	0.03	
5 Job-related anxiety	0.01	-0.27***	0.36***	-0.04*

*Sample size: 4311 workers nested within 664 workplaces*  
 \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

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**Table 3: Results of direct, indirect and interactive effects**

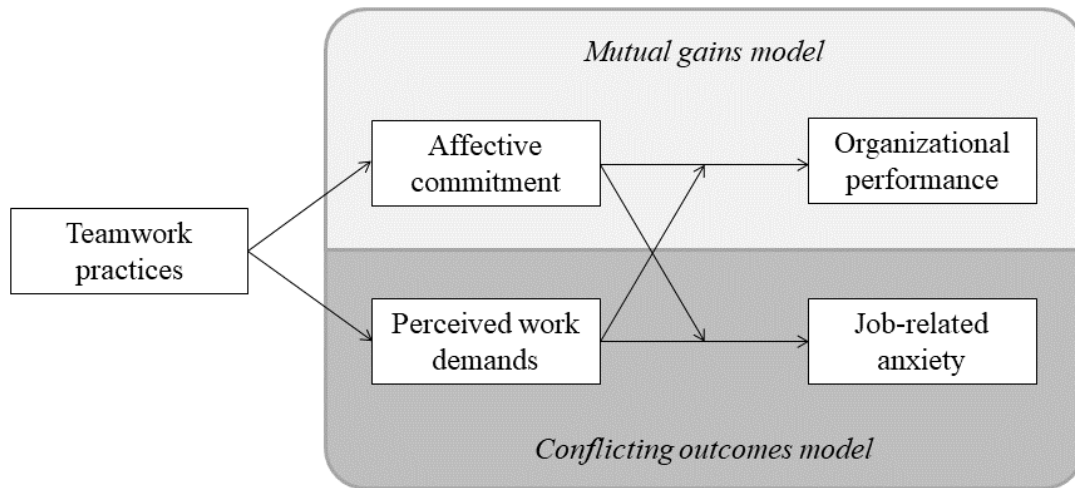
<i>Paths</i>	<i>Standardized Coefficients (Residuals)</i>	<i>95% Confidence intervals</i>	
		<i>Lower 5%</i>	<i>Upper 5%</i>
Teamwork practices → Affective commitment	0.08* (0.03)	0.03	0.14
Teamwork practices → Perceived job demands	0.11* (0.05)	0.04	0.19
Teamwork practices → Organizational performance	0.18* (0.03)	0.05	0.31
Teamwork practices → Job-related anxiety	-0.05 (0.03)	-0.10	-0.01
Affective commitment → Organizational performance	0.10** (0.03)	0.05	0.15
Perceived job demands → Job-related anxiety	0.51*** (0.02)	0.48	0.54
Teamwork practices → Affective commitment → Organizational performance	0.01* (0.00)	0.00	0.01
Teamwork practices → Perceived job demands → Job-related anxiety	0.06* (0.02)	0.02	0.10
Affective commitment* Perceived job demands → Organizational performance	0.03 (0.02)	-	-
Perceived job demands*Affective commitment → Job-related anxiety	-0.09*** (0.02)	-	-
Teamwork practices → Affective commitment* Perceived job demands → Organizational performance	0.04 (0.02)	-	-
Teamwork practices → Perceived job demands*Affective commitment → Job-related anxiety	0.15* (0.07)	-	-

*Sample size: 4311 workers nested within 664 workplaces*

*Proportion of variance explained (R<sup>2</sup>): Affective commitment = 0.01; Perceived job demands = 0.01; Organizational performance = 0.10; Job-related anxiety = 0.27*

*\* p < .05, \*\* p < .01, \*\*\* p < .001*

**Figure 1:** Direct, indirect, and interactive effects of teamwork practices on organizational performance, and job-related anxiety



**Figure 2:** Conditional indirect effect of teamwork practices on job-related anxiety

