A Theoretical Model of Co-worker Responses to Work Reintegration Processes

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Abstract Purpose Emerging research has shown that co-workers have a significant influence on the return-towork outcomes of partially fit ill or injured employees. By drawing on theoretical findings from the human resource and wider behavioral sciences literatures, our goal was to formulate a theoretical model of the influences on and outcomes of co-worker responses within work reintegration. Methods From a search of 15 data bases covering the social sciences, business and medicine, we identified articles containing models of the factors that influence coworkers' responses to disability accommodations; and, the nature and impact of co-workers' behaviors on employee outcomes. To meet our goal, we combined identified models to form a comprehensive model of the relevant factors and relationships. Internal consistency and externally validity were assessed. Results The combined model illustrates four key findings: (1) co-workers' behaviors towards an accommodated employee are influenced by attributes of that employee, the illness or injury, the coworker themselves, and the work environment; (2) the influences-behaviour relationship is mediated by perceptions of the fairness of the accommodation; (3) co-workers' behaviors affect all work reintegration outcomes; and

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E. Maceachen Dalla Lana School of Public Health, University of Toronto, Toronto, Canada (4) co-workers' behaviours can vary from support to antagonism and are moderated by type of support required, the social intensity of the job, and the level of antagonism. *Conclusions* Theoretical models from the wider literature are useful for understanding the impact of co-workers on the work reintegration process. To achieve optimal outcomes, co-workers need to perceive the arrangements as fair. Perceptions of fairness might be supported by co-workers' collaborative engagement in the planning, monitoring and review of work reintegration activities.

Keywords Co-workers · Fairness · Return-to-work · Accommodations · Social environment · Theory

Background

Work reintegration [1] is a process that allows an ill or injured employee to 'recover at work' [2]. Using strategies such as early return-to-work and the provision of modified duties, work reintegration permits employees to stay socially 'connected' [3] (p. 14) to their workplace while they rehabilitate. These and other workplace interventions (e.g., workplace assessment and the provision of ergonomic aids) have been shown to improve employee outcomes and reduce workers' compensation and other economic and personal costs of work disability [4]. However, despite workers compensation authorities' acknowledgement of the social context of work [3, 5], until recently there was little recognition of the ways in which this might impact return-to-work success [6].

From emerging research it has become increasingly clear that favourable workplace social relationships are required if optimal work reintegration is to be achieved [6–8]. In particular, there is growing awareness that support



from co-workers is crucial if best outcomes are to occur [7, 9–12]. Yet, while this represents a new understanding in the work disability context, the influence of co-workers on employee outcomes is well known in other fields (such as supported employment) [13].

With the aim of deepening knowledge about the relationship between co-workers, disability accommodations, and employee outcomes, we searched for theoretical models in the human resource and wider behavioral sciences literatures. Our goal was to formulate a theoretical model of the influences on and outcomes of co-worker responses within work reintegration. To that end, we sought to integrate existing theoretical models of (1) the factors that influence co-workers' responses to disability accommodations, and (2) the nature and impact of co-worker behaviors on employee outcomes.

Methods

For this theoretical article, we first identified relevant models from a wide range of literatures. We then combined selected models to form an integrated theoretical framework consistent with our goal. Then, in compliance with the requirements set out by the America Psychological Association (APA) ([14] p. 10) for this type of publication, we assessed the internal consistency and external validity of our total model.

The selected theoretical models were identified using the ProQuest (full text) search engine, which includes 15 data bases covering the social sciences, business, and medicine. Using the key words "disabil*", "co-worker or coworker", "theory or model", and "accommodation", and a search period from 1 January 1990 (to correspond with the implementation of Americans with Disabilities Act [1990]) to 30 November 2011, we identified six relevant abstracts written in English. Two, both by the same senior author (Colella [15, 16]), describe linked models of co-workers' judgements and responses to workplace accommodations for employees with disabilities. Both were chosen for inclusion. From the reference lists of these papers, we identified a further model in another paper co-authored by Colella [17]. This model summarises the factors affecting the treatment of individuals with a disability in the workplace. Combined, these theoretical models were used to address part 1 of our goal.

Using the same ProQuest search engine and key words "co-worker or coworker", "theory or model", "workplace" and "social environment", we searched a 10-year period from 30 November 2001 to 30 November 2011 and identified 198 abstracts written in English. From these we identified two articles that proposed theoretical models of the relationship between co-worker behaviors and the

employment outcomes of others [18, 19]. Based on comprehensiveness and empirical underpinnings, we chose the model developed and validated by Chiaburu and Harrison [18] to meet part 2 of our goal. This model, which includes all elements of the other, describes the effects of coworkers on individual employee outcomes. By combining the selected theoretical models we formed a total model of the factors that (1) underlie and moderate co-workers' differential responses to work accommodations, and (2) the employee outcomes that are influenced by co-workers' behavior.

Results

In this section, we describe the components of our integrated model and our assessment of the internal consistency and external validity. First, we present part 1: the factors that influence co-worker responses to employees requiring workplace accommodations. This is followed by an overview of the rationale for identifying 'perceived fairness' as the mediating determinant of a co-worker's response. We then consider part 2: the employee outcomes that are influenced by co-workers and the factors that moderate this influence. The combination of these theories produced our total model which conceptualises the influences on, motivational bases, nature and outcomes of coworker responses to work reintegration processes. This model is illustrated in Fig. 1. To aid our discussion of the relationships between co-workers, we adopt Chiabru and Harrison's [18] differentiation between a focal employee a person whose outcomes are of specific interest-and a co-worker—a person with whom a focal employee works with or alongside. In reporting our results, we progress from left to right across Fig. 1.

Part 1: Factors that Influence Co-workers' Responses to an Accommodated Employee

The factors influencing co-workers' responses to an employee accommodated for a disability are drawn from a theoretical model by Stone and Colella [17] and are listed on the left-hand side of Fig. 1. These factors include: attributes of the accommodated employee (gender, race, social status, attractiveness, interpersonal style, competence) and features of the disability (its nature, visibility, aesthetic qualities, origin, course, disruptiveness). Also included are: attributes of the co-worker (demographic features, personality characteristics, previous contact with disabled persons); the organizational climate (norms, values, policies, practices); and, the wider social environment (the prevailing legal frameworks) [17]. In subsequent work, Colella et al. [15] proposed that the impact of these factors



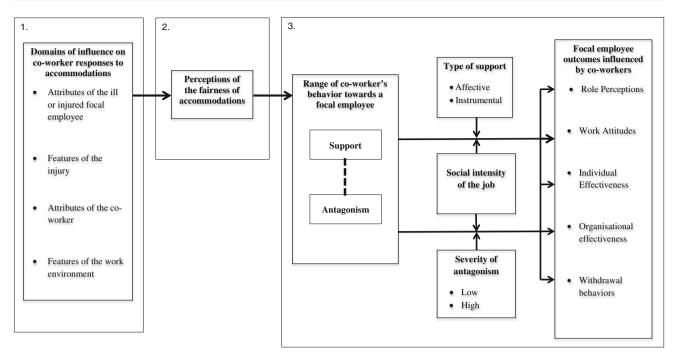


Fig. 1 Model of the influences on, motivation bases, nature and outcomes of co-worker responses to work reintegration processes Adapted from: 1 Stone and Colella [17], 2 Colella [15] and Collela et al. [16], and 3 Chiaburu and Harrison [18]

on co-workers' responses is mediated by an evaluation of the *fairness* of the accommodation [15, 16]. This, and the associated interactions, is described below.

Assessment of the Fairness of an Accommodation

Colella and colleagues posit that when a focal employee is accommodated, co-workers engage in two key evaluations: judgments of procedural fairness and judgments of distributive fairness. The outcome of these judgments determines how the co-worker will behave towards the focal employee. *Procedural fairness* refers to the perceived fairness of the decision to provide the accommodation [20]. *Distributive fairness* refers to the perceived fairness of the outcome of that decision (i.e., the effect of the accommodation on the distribution of rewards and resources within the workplace) [15]. The 'rules' involved in making these judgments were derived by Colella from a synthesis of the justice literature [15]. These are outlined below and summarised in Fig. 2.

The Judgment of Distributive Fairness Colella [15] argues that the judgement of distributive fairness involves two sets of determinants: those that provoke a judgment to be made in the first place, and those that govern the polarity (positive or negative) of the evaluation that follows. Colella states that the likelihood of a co-worker making a judgment about the fairness of an accommodation increases as *salience* and *relevance* increase. An accommodation is *salient* to a co-worker if it is *visible or uncommon*; such as when special

equipment is provided or the employee is permitted to sit while others must stand. An accommodation is *relevant* to a co-worker if it has a potential or actual impact on them, it causes them to change their behavior, or it would be of value to them (e.g., being permitted to work from home).

Colella [15] further identified that distributive fairness judgements are made according to equity and need rules. Equity rules are derived from Equity theory [21], which states that employees seek to maintain equality between their workplace inputs and outcomes, and the inputs and outcomes of their peers. Accordingly, co-workers will judge an accommodation as unfair under the following conditions: it seems to make a focal employee's work easier or their own work more difficult; it involves reward conditions (e.g., flexible hours or exemption from stressful tasks); or, it consumes scare resources that reduce coworkers' access to benefits (e.g., expenditure on a special assistive device that decreases funds available for competitive rewards). However, Colella also proposes that when such judgments are made in relation to a person with a disability, need rules, based on 'norm to be kind' scripts [22, 23], will also be applied. In these circumstances, coworkers will evaluate whether the accommodation is needed or warranted by the focal employee.

Again, from her synthesis of the justice literature, Colella theorised [15, 16, 24] that judgements about need and warrant are based on a number of factors; the first being characteristics of the disability. These include: visibility (e.g., a broken limb compared to low back pain), socially



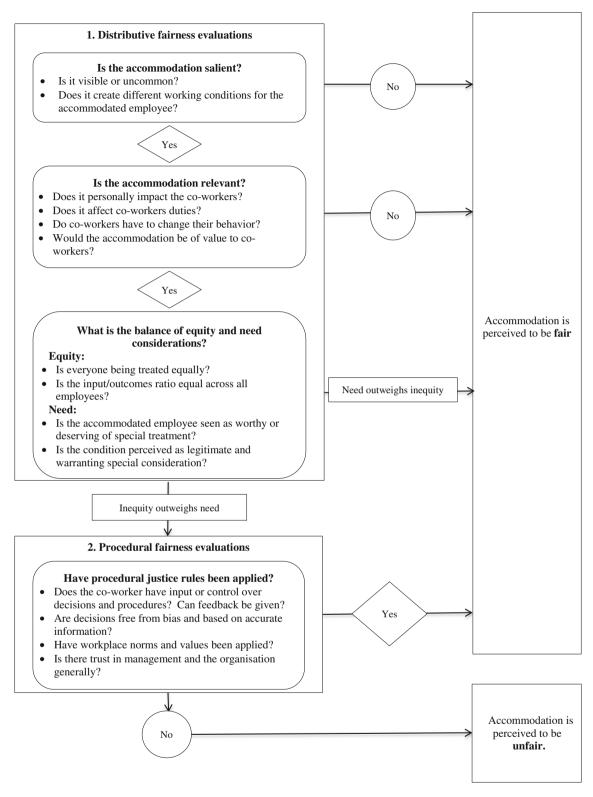


Fig. 2 Decision steps in the judgment of the fairness of an accommodation Adapted from: 1 Colella [15] and 2 Collela et al. [16]

undesirable (e.g., a physical condition compared to a psychiatric disorder) and cause (whether the person is to blame or not, or the condition is the result of an accident compared to degenerative changes). Also relevant are the characteristics of the accommodation (the perceived 'fit' between the impairment and the motivation for the



request); the interpersonal history with the focal employee (whether the person is liked, valued or an existing member of the work group); and, characteristics of the co-worker themselves (such as the capacity to tolerate ambiguity, coping skills and psychological well-being).

Reviews of the justice and disability literature [20, 25] suggest that distributive fairness judgments will be made primarily on equity rules, but Colella has shown that *need* rules will be invoked when the net effect of a number of the following influences is positive. These include: the strength of the co-worker's sense of social responsibility and otheroriented values; the degree of empathy and liking for the focal employee; the scarcity of workplace resources; and, the level to which work tasks involve interdependence (higher interdependence leading to a reduced likelihood of need rules being applied because the focal employee directly influences the co-worker's effectiveness).

In summary, from her collation of the disability and justice literature, Colella concluded that co-workers will engage in judgements about the distributive fairness of an accommodation and their subsequent responses will depend on whether or not the arrangements seem fair to them. Co-workers are likely to evaluate an accommodation as *unfair* if it results in an obvious imbalance in the distribution of workplace rewards, resources or conditions. However, they may tolerate perceived unfairness if they have personal values that are in line with the rationale for the accommodation; or, interpersonal factors engender feelings of goodwill towards the focal employee.

The Judgment of Procedural Fairness Colella et al. [16] further review and analysis of the organization and justice literature suggests that co-workers will make an additional judgment about the procedural fairness of an accommodation when that accommodation is perceived as distributively unfair to them. These scholars have identified three areas in which evaluations will take place: judgements about adherence to objective rules; individual level factors; and organizational level factors. In the disability context, legal constraints limit the full application of procedural justice rules, and privacy and confidentiality requirements prevent co-workers from having information about decisional processes [20]. Colella and colleagues suggest that in these circumstances, co-workers make inferences about managers' adherence to procedural justice rules and limit their active judgments to individual and organization level factors.

In this context, individual level factors are the same as those involved in distributive fairness judgments, namely: the nature and legitimacy of the condition; and, attributes of the focal employee and the co-worker (including the co-worker's past experience with people with a disability). More important, however, are organization level factors

because these directly influence employees' trust and confidence in the employer's decision. These factors include: the organization's history of making similar accommodations, the extent to which employees are treated as individuals, and whether job flexibility is common. They also include the presence of policies and practices that give co-workers 'a voice' in the accommodation process, including how the accommodation decision is made (e.g., multiple parties and standard procedures), and whether there is an understanding of the legal requirement to make provisions. Colella et al. [16] contend that procedural justice judgments moderate the impact of distributive fairness judgements; therefore, even if a co-worker perceives an accommodation as distributively unfair, they may react favourably if they consider it to be procedurally correct.

Having identified the factors influencing co-workers' responses to an accommodated employee and isolated 'perceived fairness' as the mediating variable between these and subsequent behavior, we then expanded the model to include the focal employee outcomes influenced by co-workers.

Part 2: Employee Outcomes Influenced by Co-workers

Our selected model of the focal employee outcomes influenced by co-workers was constructed by Chiaburu and Harrison [18]. This model is derived from a meta-analysis of 161 independent samples and almost 78,000 employees drawn from studies in the organizational and applied psychology literatures. These authors conclude that work involves more than tasks, and conceptualise employees as 'partners in social and task interactions' (p. 1,082).

Chiaburu and Harrison's first proposition is that coworkers' behavior towards a focal employee can range in polarity from positive (supportive) to negative (antagonistic). Supportive behaviors can be *affective* (e.g., expression of positive emotions, friendliness, and solidarity) or *instrumental* (e.g., practical task-directed helping, mentoring, and communication). If present, the severity of antagonism may be *high* (harassment, abuse or physical aggression) or *low* (incivility, passive neglect, or social undermining). Support and antagonism were found to moderate the relationship between co-worker behaviors and focal employee outcomes.

Chiaburu and Harrison's model also shows that the impact of co-workers' behavior is affected by the *social intensity* of a job (the extent to which interpersonal information from the environment is needed to successfully perform the duties and tasks). Social intensity can range from *high* (such as in nursing or sales jobs) to *low* (as in technical jobs like data entry). Chiaburu and Harrison found that the higher the social intensity—that is, the



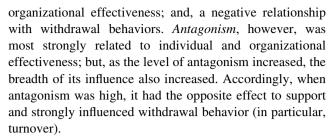
greater the level of co-worker co-operation required—the greater the influence of co-workers on all focal employee outcomes.

Chiaburu and Harrison have demonstrated that coworkers' behaviors influences five key employee outcomes. These are: perception of the job role, attitude toward the job, individual and organizational effectiveness, and various forms of behavioral withdrawal (see the far right-hand side of Fig. 1). These constructs are defined as follows: role perceptions refers to the employee's understanding of their job and how to function in the workplace. Chiaburu and Harrison found that perceptions are shaped by co-workers' advice, instruction, cues and demonstrated priorities. Work attitudes refers to an overall response to the job; which includes satisfaction, involvement and commitment. Co-workers shape attitudes by creating a congenial social environment, modelling high levels of work participation, and providing social support (or not). Individual effectiveness refers to a focal employee's personal work productivity. This was found to be significantly influenced by workplace social relations. Chiaburu and Harrison state that via reciprocal social exchanges, positive co-worker interactions (e.g., citizenship behaviors such as discretionary cooperation and practical assistance) facilitate individual effectiveness, whereas negative interactions (counterproductive behaviors such as uncivil, antisocial and undermining actions) impair this effectiveness. Further, when a large number of employees engage in predominantly one form of behavior, a 'spill over effect' [18] (p. 1,085) occurs impacting the effectiveness of the organization as a whole (i.e., organizational effectiveness). Lastly, co-workers also influence a focal employee's engagement in withdrawal behaviors; which include effort reduction, absenteeism, the intention to quit, and turnover. Through structural equation modelling, Chiaburu and Harrison further demonstrated that co-worker influences on these outcomes are independent of that accounted for by the supervisor or manager.

Factors that Moderate Co-worker Influences

The factors identified as moderating co-workers' influences on focal employee outcomes are shown in the mid-sections of Fig. 1. These variables (described above) include the polarity of co-worker behaviors (whether their actions are positive or negative); the type of support provided; the severity of antagonism (if present); and, the social intensity of the job.

Chiaburu and Harrison [18] found that the polarity of co-worker behaviors uniquely impacts outcomes. For instance, *support* was found to be correlated with the full range of workplace outcomes having a positive relationship with role perceptions, work attitudes, and individual and



Chiaburu and Harrison also found that type of support independently impacted outcomes. Affective support was found to influence the social features of work (attitudes and role perception) while instrumental support predominantly influenced individual and organizational effectiveness. This latter finding was attributed to the direct effect of practical assistance with task completion; a behavior which tends to be reciprocated (cued by social exchange norms).

To summarise, through their comprehensive literature review, meta-analysis, and model-testing, Chiaburu and Harrison found that co-workers have an independent influence on a broad range of employee outcomes. This influence is moderated by job type, as well as the polarity, strength and nature of co-worker responses. Positive supportive responses—particularly returned assistance with tasks—have a positive impact on all employee outcomes. On the other hand, negative antagonistic responses undermined individual and organizational effectiveness and, when high, affected all employee outcomes including turnover.

By linking the models addressing parts 1 and 2 of our goal, we constructed a total model of the influences, motivational bases, nature and outcomes of co-worker responses to employees requiring accommodations. We now proceed to examine the internal consistency and external validity of this combined model.

Evaluation of Internal Consistency

To evaluate the internal consistency of our model, we utilised criteria established by Fawcett [26]. These criteria stipulate that there should be congruence between the context and content of the theory; that the concepts must be semantically clear and consistent throughout the theory; and that linkages between the concepts should be specified.

We identified that all theories in our total model share a psychosocial conceptualisation (i.e., conditions, activities and relationships are created by beliefs, perceptions and expectations within a social environment) [27]; and, all refer to the context of the workplace. Additionally, all propose that motivational factors mediate between influences and outcomes, and the linkages between these can be clearly observed. Finally, the combined theory uses simple language and definitions that enable the concepts to be readily understood.



Exploration of External Validity

We explored the eternal validity of the total model by comparing its variables, constructs and predictions with those found in the acquired work disability literature. According to the total model, there would be variability in co-workers' behavioral responses to an ill or injured (focal) employee. These would be influenced by attributes of the focal employee, the injury, the co-worker and the work environment. Mediating between these influences and the co-workers' behavioral responses would be perceptions of the 'fairness' of the work reintegration arrangements. Lastly, co-worker responses would impact the outcomes of an accommodated (focal) employee. In the next section, we identify studies that illustrate these theoretical relationships.

Findings from the Acquired Work Disability Literature

Research findings from the acquired work disability field confirm that co-workers can have a significant impact on a focal employee's work reintegration success [28, 29]. These findings emerge from reports by ill or injured employees [30-33], employers [11, 34], workers compensation authorities [3, 5], treating health professionals [10, 35] and co-workers [7, 36, 37]. However, as our total model suggests, there are circumstances when co-workers' responses are less relevant to work reintegration outcomes—such as when job autonomy is high—therefore, it is not surprising that some statistical results have been nonsignificant [38] or have shown low predictive power [39]. Overall, however, the findings are in line with our model's prediction that co-workers impact focal employees' outcomes and their support is important for effective work reintegration [6–8].

Also consistent with our model are findings showing that different contextual domains influence co-workers' behavioral responses. These domains include: attributes of the focal employee—the quality of the pre-existing interpersonal relationship and his/her perceived work ethic, skills and abilities [36, 40], and features of the injury nature, duration, stability, predictability and legitimacy [6, 7, 36, 41, 42]. Also identified are attributes of the coworker; such as values and beliefs about social justice, mental health status, past experience in supporting accommodations, and level of competing self-interest [6, 7, 11, 41, 43, 44]. Aspects of the workplace have also been found to be relevant. These include: the size of the organization, the general tone of the workplace, the nature of the duties to be performed, the type of support required, the quality of workplace return-to-work policies and procedures, and the sustainability of the accommodations [6, 7, 11, 41, 45].

Goodwill towards a focal employee receiving an accommodation has also emerged as a key determinant of the polarity of co-worker behaviors [36, 46]. This appears to be secondary to perceptions of the fairness of the arrangements, and is influenced by factors similar to those observed in the general disability context [37, 46]. Thus, when there is a lack of recognition of the social context of work [6, 7, 41], and co-workers efforts are either 'invisible' or the arrangements are to their detriment [36, 46], they become disgruntled and perceive work reintegration as 'unfair' to them.

Finally, in the work disability context, co-workers have also been identified as influencing the outcomes of returning employees in the areas of role perceptions [37], work attitudes [43], individual and organizational effectiveness, and turn over [36, 37].

To summarise, the findings from the acquired work disability literature are in line with those predicted by our model. Specifically, co-worker responses have been shown to impact the work reintegration outcomes of employees with a workplace illness or injury. In particular, responses are influenced by a range of factors that lead to a perception of fairness (or not). In turn, perceived fairness influences the nature of co-workers' behaviors, and these affect the outcomes of the returning employee.

Discussion

This paper describes the construction and assessment of a model of the influences on, motivational bases, nature and outcomes of co-worker responses to work reintegration processes. The model was developed by integrating existing theoretical models of the factors that influence co-worker responses to disability accommodations, and the general employment outcomes that are impacted by co-workers. The underlying assumption of the contributing models is that the workplace is a social environment. Accordingly, our total model shows that within this context, co-workers have a critical influence on work reintegration.

To date, work reintegration and accommodation provisions have been largely biomedically interpreted and managed [47, 48]. As such, work disability is viewed as an attribute of an individual, caused by an impairment, which produces a functional restriction. The biomedical model proposes that impairments and restrictions can be compensated for or rehabilitated through individual treatments or accommodations [49]. The tenets of this model do not include social influences [15]. In contrast, the total model constructed in this paper is in line with a body of empirical literature demonstrating that the workplace is a social environment where co-worker responses affect outcomes



[20, 25, 50]. Critically, for optimal outcomes, the accommodation process needs to be perceived as fair [51].

Some workers compensation authorities already advocate for a social approach to return-to-work suggesting that successful outcomes require recognition and management of co-worker responses. Statements of these approaches include:

Planning must acknowledge return-to-work as a socially fragile process ... The return-to-work committee (should) ensure that the Individual Return to Work Plan supports the returning employee without disadvantaging co-workers and supervisors. *New York State Workers' Compensation Board, Return to Work Program Handbook* (p. 4) [5]

Consider the effect the workplace injury may have on co-workers. Remember to manage co-worker expectations ... Keep co-workers informed.... WorkCover Western Australia (WA), Injury Management: A Guide for Employers (p. 11, 19) [3]

While little evidence is available to show how and where these suggestions play out in practice, based on the relationships shown in our model, we propose the use of strategies that result in co-workers perceiving the work reintegration processes as fair to them.

Creating Fairness for Co-workers

In ideal circumstances, a co-worker would be unaware of a focal employee's accommodation. As Colella recommends: it should have 'as little salience and relevance as possible' [15] (p. 112). Thus, the accommodation would not be visible to others and, if it were, it would have minimal impact on them. However, if this is not possible, then other fairness-perception-promoting approaches need to be initiated. Some suggestions are described below.

As noted above, perceptions of procedural fairness moderate the effects of perceptions of distributive unfairness, and thus can be critical to an overall judgment of the fairness of an accommodation. Therefore, employers could act in ways that demonstrate their commitment to fair and equitable human resource management, and in so doing, support the assumption that they would exercise procedural fairness. For instance, they could include in orientation and induction processes for new employees, education about the legal and procedural aspects of disability accommodation. Further, they could show a dedication to staff welfare through regular safety audits, the provision of an Employee Assistance Program, and mechanisms for communicating matters of concern.

Another group of strategies could support the perception of distributive fairness: that is, perceptions of equity in the allocation of rewards and resources across the peer group. While the norm is that individual outcomes should be proportional to inputs, co-workers may accept a differential distribution (created by an accommodation) if a focal employee is perceived as needing or warranting special consideration. Although not articulated with distributive fairness perceptions in mind, supervisors [34, 52], co-workers [7, 36], clinicians and researchers [51, 53] have suggested work reintegration approaches that could lead to this end. These include: communicating about the focal employee's need and warrant of an accommodation and seeking co-worker input into work reintegration arrangements. Below we report on a work reintegration approach that is built on these features.

A Collaborative Approach to Work Reintegration

Pilot work [51] has provided a model for work reintegration processes in which two-way communication is the central component. The first step in this model is to help the focal employee identify key co-workers to whom they can disclose sufficient information to allow their abilities and restrictions to be understood. These same co-workers then receive education about the condition and accommodation provision in general, and are encouraged to collaborate in return-to-work planning, monitoring and review. In this way, the co-workers know what is happening and why, and are assured of a forum in which to express their ideas or concerns. Further, by giving assurance that the return-towork plan will be regularly reviewed, circumstances are created whereby trust, goodwill and support can reasonably follow [46]. However, if this approach is insufficient to address a persisting imbalance in inputs and outcomes, then mitigating practices used in the traditional disability/supported employment context might be appropriate. These include compensations in the form of incentives [54], special recognition, or a specified support role [55, 56].

Conclusion

In this paper, we have constructed a theoretical model that demonstrates why the social context of work, and coworker responses in particular, need to be considered in work reintegration processes. Our model shows that for optimal outcomes to be achieved, the arrangements must be perceived as fair. This knowledge contributes to an expanding rationale for abandoning biomedical approaches to work reintegration—those that involve a technical change to duties and traditional stakeholders only (i.e., the worker, employer, insurer and treating health professionals)—and ensuring that biopsychosocial strategies are employed. Our model also provides a framework for future



research into the influences on and impacts of co-workers in workplace rehabilitation.

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