The concept of job control—people’s perceived ability to exert some influence over their work environment, in order to make it more rewarding and less threatening (Ganster, 1989)—occupies a central position in most models of work organization and occupational health, for example, the job characteristics model (Hackman & Lawler, 1971), the sociotechnical systems approach (e.g., Emery & Trist, 1960), action theory (e.g., Frese & Zapf, 1994), and the demands–control model (Karasek, 1979). Extensive research demonstrates that, consistent with these models, there is a link between low levels of perceived job control and various unfavorable employee and organizational outcomes, such as mental and physical health problems, job dissatisfaction, sickness absence, and poor job performance (e.g., Bond & Bunce, 2001; 2003; Bosma, Stansfeld, & Marmot, 1998; Ganster & Fusilier, 1989; Karasek & Theorell, 1990; Parker & Wall, 1998; Terry & Jimmieson, 1999).

It is not surprising, then, that work reorganization (or job redesign) interventions are assumed to improve such variables, if they increase the amount of control that employees have over their work environments (e.g., Jackson, 1983; Murphy & Hurrell, 1987; Parker, Chmiel, & Wall, 1997; Sparks, Faragher, & Cooper, 2001; Wall, Kemp, Jackson, & Clegg, 1986). Despite this ubiquitous assumption, only Bond and Bunce (2001), to our knowledge, have tested this hypothesis, (e.g., Baron & Kenny, 1986).

They showed that job control did serve as the mechanism by which a work redesign intervention improved several employee outcomes at a one-year follow-up: mental health, sickness absence rates, and self-rated job performance.

The present study replicates and extends Bond and Bunce’s (2001) mediation research. It tested, once again, the extent to which a work reorganization intervention improved outcomes (i.e., mental health, absence rates, and job motivation) by enhancing perceived levels of job control; in addition, it, uniquely, investigated whether the redesign increased perceptions of job control and hence improved the intervention effects, particularly for workers who had higher levels of a specific individual characteristic: psychological flexibility. Investigating the possibility of such mediated moderated intervention effects is timely, as several authors have recently called for greater consideration of individual differences in job design research (e.g., Jex, Bliese, Buzzell, & Primeau, 2001; Parker, Wall, & Corder, 2001; Schaubroeck, Jones, & Xie, 2001; Schaubroeck & Merritt, 1997), and to our knowledge, this call has yet to be answered.

**Psychological Flexibility at Work**

Psychological flexibility is a primary determinant of mental health and behavioral effectiveness, as hypothesized by one of the more recent, empirically based theories of psychopathology, acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999). Psychological flexibility, or flexibility, refers to an ability to focus on the present moment and, depending upon what the situation affords, persist with or change one’s (even inflexible, stereotypical) behavior in the pursuit of goals and values. People cannot focus comprehensively on the present moment, however,
when their attention is directed at altering, avoiding, suppressing, analyzing, or otherwise controlling their psychological events (e.g., thoughts, feelings, physiological sensations, images, and memories; Bond & Flaxman, 2006). Thus, flexibility involves a reduced tendency to control internal experiences when doing so would prevent goal attainment (e.g., when avoiding fear prevents people from taking goal-directed action); instead, flexibility involves people deliberately observing their internal experiences on a moment-to-moment basis, in an open, nonelaborative, noncontrolling, and nonjudgmental manner (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). (Training such nonjudgmental attention to psychological events is a primary goal in ACT as well as the contemporary, cognitive–behavior therapies of Linehan, 1993; Segal, Williams, and Teasdale, 2002; and Wells, 2000). This nonelaborative, nonjudgmental— or mindful—stance toward (even unwanted) internal events frees people from the need to control them or be overly guided by them; instead, it allows people to redirect their limited attentional resources to the present moment. As a result, psychologically flexible people are less emotionally disturbed (Baer, 2003; Hayes et al., 2006), and they have more attentional resources for noticing and responding effectively to goal-associated opportunities that exist in the present situation. It is this “goal-related context sensitivity” feature of psychological flexibility that is thought to make this individual characteristic an important influence on job performance, motivation, absenteeism and mental health at work (Bond & Hayes, 2002).

Psychological flexibility’s emphasis on taking goal-directed action invites comparisons with goal attainment theories (e.g., Kuhl, 1992) and motivation constructs such as growth need strength (Hackman & Oldham, 1976) and need for achievement (McClelland, 1961). There is a difference, though: Psychological flexibility explicitly considers people’s motivation to achieve, develop, and move toward their goals in relation to how mindful they are. Thus, people could be high in their need to achieve and develop at work, but if they respond to their thoughts, feelings, fears, and doubts in a rigid, elaborative, judgmental, or avoidant manner (i.e., nonmindfully), they will be low in psychological flexibility (and, perhaps, in their actual ability to achieve their goals over time).

In line with this conceptualization of psychological flexibility, there are now 27 studies that show that this characteristic predicts outcomes such as mental health, job satisfaction, and job performance (over a one-year period), with an average effect size of \( r = .42 \) (see Hayes et al., 2006, for the complete findings of this meta-analysis.) These effects of flexibility are seen even after controlling for one or more individual characteristics, such as emotional intelligence and each of the Big Five factors of personality specified by L. R. Goldberg (1990; see Bond, Hayes, & Barnes-Holmes, 2006, for a review). For example, results from a two-wave, full-panel design study by Bond and Bunce (2003) showed that psychological flexibility predicted mental health and job performance one year later, after controlling for negative affectivity and locus of control. (Importantly, those two outcomes did not predict psychological flexibility over that same year. This suggests that flexibility is impacting subsequent mental health and job performance, not the reverse.) In the workplace, psychological flexibility does not correlate with just poor performance and health. Randomized controlled trials show that increasing flexibility is the mechanism, or mediator, by which ACT interventions improve mental health and innovation potential and reduce burnout rates (Bond & Bunce, 2000; Hayes, Bissett, et al., 2004).

Benefits of Psychological Flexibility for Work Redesign

As noted, people with more psychological flexibility are hypothesized to have greater goal-related context sensitivity: an increased capacity to notice, comprehend, and respond more effectively to goal-associated opportunities that exist in a given situation. Thus, if workers with greater flexibility are given more job control, they may be better able to notice where, when, and the degree to which they have it; as a result, they will be better able to identify more opportunities to pursue goal-oriented actions, which presumably involve making their work more rewarding or at least less aversive (Ganster, 1989). Consistent with this hypothesis, longitudinal studies by Bond and Bunce (2003) and Bond and Flaxman (2006) showed that workers with greater psychological flexibility benefited more from higher levels of job control, in terms of mental health, objective measures of job performance, and learning a new computer software system. These studies, the goal-related context sensitivity hypothesis on which they were based, and the above literature review lead to the following three hypotheses:

**Hypothesis 1:** A control-enhancing work redesign intervention will reduce psychological distress and absence levels and improve motivation.

**Hypothesis 2:** These intervention effects will be greater for people who are higher in psychological flexibility. That is, flexibility will moderate the intervention effects.

**Hypothesis 3:** These moderated intervention effects will be at least partially mediated (or transmitted) through workers’ perceptions that job control increased as a result of the work redesign.

Taken together, Hypotheses 2 and 3 constitute a mediated moderation model (Baron & Kenny, 1986; Muller, Judd, & Yzerbyt, 2005), which is shown in Figure 1.

**Method**

**Participants**

This study occurred in two customer service centers of a large financial services organization in the United Kingdom. This company wanted to reduce stress and absence rates, as well as improve motivation levels, among its call center employees, whose primary responsibilities were to answer high-volume telephone inquiries and enter customer account information into computerized systems. To participate in this study, employees were required to have this entry-level and nonmanagerial role at this organization for at least one year.
Hypothesis 2: Overall moderated intervention effect

\[ \text{Group x PF} \rightarrow \text{Outcomes} \]

Hypothesis 3: Mediated moderated intervention effect

\[ \text{Group x PF} \rightarrow \text{Job control} \rightarrow \text{Outcomes} \]

\[ c_1 + a \cdot c_2 + b \]

Figure 1. Models illustrating the second and third hypotheses of the study. Outcomes refers to psychological distress, number of days absent, number of occasions absent, and motivation. PF = psychological flexibility.

Measures

Job Control Scale (Ganster, 1989). This 22-item scale assesses a range of areas over which people can have control at work: variety of tasks performed, the order of task performance, pacing, scheduling of rest breaks, procedures and policies in the workplace, and arrangement of the physical environment. Each item (e.g., “How much control do you have personally over the quality of your work?”) is rated on a 5-point Likert-type scale ranging from 1 (very little) to 5 (very much), with higher scores indicating greater levels of control. Psychometric properties of this scale appear good and reveal a single factor of control (Ganster, 1989). Cronbach’s alpha coefficients for Times 1 and 2 were .89 and .90, respectively.

Acceptance and Action Questionnaire (Hayes, Strosahl, et al., 2004). This 16-item measure of psychological flexibility assesses people’s ability to take a nonelaborative, nonjudgmental approach to their internal events, so that they can focus on the present moment and act in a way that is congruent with their values and goals and not their internal events (e.g., fears, urges, and prejudices). Each item (e.g., “If I get bored of a task, I can still complete it”) is rated on a 7-point Likert-type scale ranging from 1 (never true) to 7 (always true), with higher scores indicating greater psychological flexibility. Published research on this questionnaire, summarized by Bond and Bunce (2003) and Hayes, Strosahl, et al. (2004), indicates that it has good construct- and criterion-related validities. Cronbach’s alpha coefficients for Times 1 and 2 here were .77 and .81, respectively.

General Health Questionnaire–12 (D. Goldberg, 1978). This is a 12-item scale with good psychometric properties that is typically used as a measure of general mental health, or psychological distress (McDowell & Newell, 1996). We used the Likert method of scoring (see Banks et al., 1980), where each item (e.g., “Have you recently . . .” “Lost much sleep over worry”) was scored 0 (not at all) to 3 (much more than usual), with higher scores indicating higher levels of psychological distress. Cronbach’s alpha coefficients for Times 1 and 2 were .86 and .85, respectively.

Intrinsic Job Motivation (Warr, Cook, & Wall, 1979). This well-validated, six-item scale measured respondents’ wishes to work to the best of their ability (e.g., “I take pride in doing my job as well as I can”). Each item was scored on a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach’s alpha coefficients for Times 1 and 2 were .84 and .82, respectively.

Absence: Number of occasions and days. Using records from the company’s human resources department, we compared non-holiday absence rates for the year before pretest (i.e., the year before Time 1) with those for the year before posttest (i.e., the year from Time 1 to Time 2). We made this comparison for two commonly used absence measures (Johns, 1997): number of occasions absent, irrespective of duration, and number of days absent, regardless of the number of occasions.

Procedure