Why and when workplace interactions can go wrong: Multilevel mediation and moderation of workplace social stressor-strain relations

by

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ABSTRACT

Negative interpersonal workplace behaviours are an important but relatively infrequently studied occupational-stressor. The present research investigated the connection between these behaviours and employee well-being. This work had two main goals. The first goal was to provide greater insight into when and why social interactions at work can be harmful to employee well-being. Consistent with this goal, theory and research were reviewed, and results from two field studies were presented suggesting that (1) disrespect is an important characteristic of interpersonal workplace events that can explain detriments to employee well-being, and (2) both individual and contextual moderators are relevant in this process. In a first study, disrespectful leader behaviours were shown to negatively relate to employee well-being independent of demanding, production-focused leader behaviours. In a second study, perceived disrespectfulness mediated the relationship between exposure to negative interpersonal behaviour and well-being; workplace norms, social support, control-related self-beliefs, and negative affectivity moderated associations within the mediation sequence. Given the importance placed on objective measurement methods in the occupational stress literature, the inherent difficulties in measuring social stressors objectively, and the widespread use of self-report instruments in the literature, the second main goal of this work was to approach greater objectivity in the measurements of self-reported negative interpersonal workplace interactions. A number of approaches were used toward this end, including the development of a more objective self-report measure of interpersonal workplace behaviours, as well as the use of aggregate variables and the investigation of moderated relations within multilevel frameworks. Implications of this work and directions for further research are discussed.

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INTRODUCTION

Stress is a very important contemporary problem, and workplaces are a significant source of stress. Employees are exposed to a variety of stressors at work. Occupational stress may be a result of the job itself such as when one's job is very demanding; it may be the result of physical working conditions such as when one is exposed to unsafe chemical agents; or it may also be the result of negative interpersonal workplace interactions such as when one is harassed or bullied at work. Although social relationships at work have long been recognized as a potential source of stress (e.g., Cooper & Marshall, 1976), this last source of stress is one of the least-well-understood and studied (e.g., Beehr, 1995; Hammer, Saksvik, Nytrø, & Torvatn, 2004; Sutherland & Cooper, 1990; Zapf, Knortz & Kulla, 1996), despite indications that it can be one of the more important sources of stress for employees (e.g., Dorman & Zapf, 1999; Keenan & Newton, 1985; Schwartz & Stone, 1993; Spector & Jex, 1998).

Researchers have studied negative interpersonal workplace interactions under a wide array of labels and conceptualizations: bullying (Einarsen, 1999; Rayner, 1997), emotional abuse (Keashly, 1998), workplace aggression (Baron & Neuman, 1996), and others. However, these diverse labels refer to a single general construct (Bowling & Beehr, 2006; Lapierre, Spector, & Leck, 2005). See Appendix A for a more extensive list of such variables and their definitions. Although definitions of such variables can be seen to differ in their specific conceptual features, what such variables share in common is that they refer to interpersonal workplace interactions that are hostile, inappropriate, or potentially harmful to others. Examples of such behaviours include name calling and the use of derogatory terms,

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being socially or physically isolated, yelled at, subjected to false accusations/rumours, and so forth.

Negative interpersonal workplace interactions are associated with many negative work-related and health-related consequences. These behaviours have been linked to mental health-related consequences such as depression and anxiety, as well as negative work-related consequences such as decreased job satisfaction and organizational commitment, and increased turnover intentions (e.g., Cooper, Dewe, & O'Driscoll, 2001).

The present research examined associations between negative interpersonal workplace interactions and employee well-being. In doing so, it drew from occupational stress and organizational justice literatures, two conceptually similar but largely non-overlapping literatures. Furthermore, consistent with calls from both these literatures, the present investigation adopted a multilevel perspective (e.g., Bliese & Jex, 2002; Konovsky, 2000). The main goals and expected contributions of this research were (1) to provide greater insight into when and why social interactions at work can be harmful to employee well-being, and (2) to approach greater objectivity in the measurements of self-reported negative interpersonal workplace interactions. These aims were sought through two studies. Both studies focused on the concept of disrespect as a focal characteristic of workplace interactions explaining detriments to well-being and both utilized strategies for enhancing objectivity in self-reported measurement of potentially harmful social interactions. Given that the proposed research relied on cross-sectional self-report data, strategies for minimizing inferential threats associated with such methods played an important part of this work.

In a first study, associations between leader behaviours and subordinate mental health were examined. Disrespect was proposed as an explanatory mechanism to explain the

relation between interpersonal leader behaviours and mental health. Two categories of leader behaviours were tested: (1) inherently disrespectful behaviours and (2) demanding production-focused behaviours that are not inherently disrespectful in nature. This study applied multilevel modeling techniques and other methodological strategies that—although not typically discussed in this light in the literature—are powerful tools in addressing inferential threats associated with cross-sectional designs.

In a second study, a more elaborate model linking interpersonal workplace behaviours and employee-related consequences was proposed. Associations between negative interpersonal behaviours initiated by any organizational member (not just supervisors) and a broader range of employee-related outcomes were considered. Furthermore, interpersonal justice, a variable characterizing the perceived respectfulness of treatment received, was studied as the mechanism linking interpersonal workplace behaviours to negative consequences using an alternative approach to that employed in the first study. Here, rather than contrasting behaviours that are inherently disrespectful (or interpersonally unjust) to other forms of behaviour, more neutral but potentially problematic behaviours were considered. The proposed mechanism through which behaviours lead to negative consequences was measured separately and tested as a mediator of the relation between these more neutral interpersonal behaviours and negative employee-related consequences. Both individual and contextual variables were considered as potential moderators of the behaviour-mediator and mediator-consequences links. These moderators were identified through a review of pertinent academic literatures. A goal of this study was to identify if and where the variables moderate relations within the behaviour-mediator-consequence chain, something that has yet to be examined in the occupational stress literature. This study also

included the development and validation of a more objective self-report measure of interpersonal workplace interactions. Furthermore, this study also employed methodological strategies for addressing inferential threats associated with the use of cross-sectional data such as the use of a neutrally worded scale of interpersonal workplace behaviours, the inclusion of mediated and moderated relations, the use of aggregate and control variables, as well as others.

STUDY ONE

Leadership Behaviour and Employee Well-Being

Negative interpersonal workplace interactions have been conceptualized as a form of stressor that can have detrimental consequences for employee well-being, and supervisor-subordinate relationships are a commonly reported source of such stress at work (Rayner, 1997; van Dierendonck, Borrill, Haynes, & Stride, 2004). Consistent with this conceptualization, research has demonstrated that certain leader behaviours can have harmful consequences for subordinate well-being (e.g., Ashfort, 1997; Cartwright & Cooper, 1994; Tepper, 2000).

The present study sought to identify a specific detrimental feature of interpersonal leader behaviours—namely, that of disrespectfulness—and to demonstrate its effects on individuals independent from effects of other features. Specifically, inherently disrespectful leadership behaviours were compared to more task-oriented demanding behaviours rigorously focused on production. Such an approach was useful for identifying disrespect as a mechanism underlying links between interpersonal relationships and negative individual consequences.

Disrespectful and Demanding Leadership Behaviours

During the 1940's efforts were undertaken to uncover the behavioural indicators of effective leadership. Independent work conducted relatively concurrently by researchers at Ohio State University, University of Michigan, and Harvard University all pointed to two dimensions. While different labels were provided, the identified dimensions were conceptually very similar. Given that Ohio State's program has been considered the most extensive (Chemers, 1997), their construct labels will be discussed here. Their two identified

dimensions of effective leadership behaviour were (1) consideration and (2) initiating structure. Consideration refers to the degree to which a leader shows concern and respect for followers, looks out for their welfare, and expresses appreciation and support (Bass, 1990). Initiating structure refers to the degree to which a leader defines and organizes his role and the roles of followers, is oriented toward goal attainment, and establishes well-defined patterns and channels of communication (Fleishman, 1973). According to Fleishman (1995): "Consideration and initiating structure have proven to be among the most robust of leadership concepts" (p.51). Their association with a variety of organizationally-relevant outcomes has been well established.

In their quantitative review of associations between these dimensions and various organizational outcomes, Judge, Piccolo, and Ilies (2004) found that consideration was more strongly associated with follower motivation and satisfaction (job satisfaction and leadership satisfaction), whereas initiating structure was more strongly associated with leader job performance and group-organization performance. Although the leadership literature has considered a variety of outcomes, it has been mainly concerned with individual, group, and organizational performance; the association between leadership behaviours and subordinate well-being on the other hand has been largely ignored (Sivanathan, Arnold, Turner, & Barling, 2004). In the present study, associations between two categories of leadership behaviours and subordinate mental health were examined. The first category represents inherently disrespectful behaviours. These behaviours show parallels to the widely studied leadership construct of consideration (which includes the concept of respect). The second type of leadership behaviours considered in this study shares more conceptual similarity with the initiating structure construct. Namely, they include demanding production-oriented

behaviours. The use of the present constructs (as opposed to the broader constructs of initiating structure and consideration for example) was appropriate given the goal of identifying specific features of leadership behaviours that are uniquely associated with subordinate well-being.

Linking Leadership Behaviours and Subordinate Mental Health

Disrespectful Behaviours

A number of theories, writings, and research from different areas of study suggest that the treatment of others influences people's views of themselves and their well-being. Social psychologists have long emphasized the inherently social nature of the self in understanding the self to be partly derived through one's interactions with others (e.g., Baumeister, 1998). The social psychology literature also suggests that people are understood to interpret the meaning of one another's behaviours during interpersonal encounters in determining whether these behaviours negate or affirm one's worth and identity. For example, symbolic interactionists discussed the role of reflected appraisals on people's self-evaluations; the concept of the looking-glass self (Cooley, 1902; Mead, 1934) proposes that self-esteem is largely derived from the positive regard of others. Goffman's (1967, 1971) notion of "face" is also consistent with such thinking. Face is defined as "the positive social value a person effectively claims for himself during a particular contact" (1967, p.1). Goffman proposes that in each social contact, people express by verbal and nonverbal means their views of the situation and an evaluation of the people involved. And these evaluations influence the positive or negative feelings an individual feels following an encounter. Sociometry theory postulates that individuals possess an internal control system that monitors the social environment for evaluative cues from others indicating social acceptance

or rejection and acts to inform individuals of these social circumstances through changes in one's state self-esteem (Leary & Baumeister, 2000; Leary & Downs, 1995). When cues—such as disrespectful behaviour—indicating devaluation are detected, lowered self-esteem and negative affect serve to signal the threat of social rejection. Consistent with these lines of thinking, a great deal of research demonstrates that people's self-evaluations are influenced to a great degree by their beliefs regarding how they are perceived and evaluated by others (Felson, 1993; Hamacheck, 1978; Harter, 1993). Turning to the organizational justice literature, consistent with the discussion presented above, according to Lind and Tyler's (1988) Group Value theory, people care about their standing in valued social groups, and interpersonal treatment during social interactions is said to communicate information about an individual's status in such groups. Respectful treatment communicates social approval and high personal in-group standing; disrespectful behaviour signals social disapproval and devaluation of the person and is thus perceived as unfair. Consistent with this position, organizational justice research has demonstrated that insensitive and disrespectful interpersonal treatment is associated with a variety of negative individual consequences (Colquitt et al., 2001). Furthermore, in others streams of research, a lack of belongingness (i.e., an individual's sense of not being a valued member of a social group) has been associated with depression (Sargent, Williams, Hagerty, Lynch-Sauer, & Hoyle, 2002) and psychological distress (Lee, Draper, & Lee, 2001). Such writings and research support the association between disrespectfulness (as a specific feature of leadership behaviour or more generally, as a feature of negative interpersonal interactions) and mental well-being. Given this discussion, with respect to the present study, it was expected that leader respectfulness would be associated with subordinate mental health and that such effects

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would be independent of other forms leadership behaviour that could influence employee well-being. More specifically, we expected that leaders who are generally more disrespectful toward their subordinates than others would have subordinates that suffer poorer mental health, independent of other forms of leader behaviours being demonstrated.

Hypothesis 1: Leader disrespectfulness is independently related to subordinate mental health

Demanding Behaviours

Increasing demands on employees, considered in a variety of senses, have also been associated with negative mental health-related outcomes. Quantitative work overload (or the sheer amount of work to be completed within a given amount of time) has been associated with anxiety, depression, and negative employee job-related attitudes (Cooper, Dewe, & O'Driscoll, 2001). Consistent with a variety of stress theories (e.g., person-environment fit theory: French, Caplan, & Van Harrison, 1982; transactional stress model: Lazarus & Folkman, 1987; job demands-control model: Karasek, 1979), this may be understood to be a result of a mismatch between employee capabilities and environmental demands or due to individuals' perceived inability to cope with situational demands. A variety of external factors may contribute to work overload. One's leader may be one such contributing factor. Overly demanding leaders may contribute to overloading subordinates through an excessive focus on production, thus leading to detriments in well-being. In line with this thinking, it was expected that leaders that are generally more demanding of their subordinates than others would have subordinates that suffer poorer mental health. Again, this effect should be independent of other leader behaviour—such as disrespectfulness—expected to influence employee well-being.

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Hypothesis 2: Leader "demandingness" is independently related to subordinate

mental health

Relative Standing and Leadership Behaviours

The theorizing presented thus far regarding disrespectful and demanding leadership

behaviour suggests that a leader's general tendency to behave in characteristic ways (either in

disrespectful or demanding fashions) toward their subordinates will influence the well-being

of their direct reports. Namely, it was hypothesized that employees with more disrespectful

and demanding leaders (considered in an absolute or general sense) would be expected to

experience poorer mental health. Stated differently, one can expect that the well-being of

subordinates will vary across work groups based on the group's leader or rather the extent to

which a given group's leader is disrespectful and demanding. Although determining whether

these forms of leadership behaviour show independent effects on employee mental health

was of primary interest to the present study because of our interest in demonstrating

disrespectfulness as a specific feature of interpersonal behaviour related to well-being, a

question remains regarding effects that may be occurring within work-groups. Although the

mental health of all employees of a given leader are expected to vary as a function of the

leader's general level of disrespectfulness and demandingness, within work-groups one could

also reasonably expect variation in employee mental health. One may therefore ask how the

mental health of employees within work-groups (i.e., employees sharing the same leader)

may vary as a function of variables of interest in this study. One approach to examining this

question could involve considering relative rather than absolute levels of disrespectful and

demanding treatment by leaders. In other words, perhaps employee mental health, in

addition to being influenced by the general extent to which one's leader is disrespectful and

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demanding, would also vary as a function of being treated more or less disrespectfully by one's leader compared to other employees within one's work-group. The effect of relative leader treatment on mental health is considered next.

Disrespectful Behaviours

Relative deprivation theorists emphasize that an individual's satisfaction with a given set of circumstances often is based less on the absolute level of those circumstances than on their level in relation to standards that are made salient by the social setting in which the individual is embedded (Crosby, 1984). Similarly, with respect to treatment received from others, organizational justice theories suggest that it is one's relative standing against some referent that matters, not absolute levels of treatment per se (Cropanzano & Greenberg, 1997). According to social comparison theory, individuals learn about and assess themselves by comparing themselves with other people (Festinger, 1954). Furthermore, a central tenet of social comparison theory—the "similarity hypotheses"—states that individuals prefer to compare themselves to others they perceive as similar (Wood, 1989). These lines of reasoning are particularly appropriate in the present context because of the potential for relative leader treatment to signal subordinates' social standing within their groups. Being treated less disrespectfully by one's boss relative to one's peers could signal greater approval and higher standing in one's group. Consequently, one's standing in the group could be high despite being treated disrespectfully in an absolute sense. Being treated more disrespectfully relative to one's peers can create a social-imbalance and therefore be more harmful than one might expect given uniform treatment within one's group. Given the above, it was expected that the extent to which employees are treated disrespectfully by their leaders compared to other individuals in a relevant social group (i.e., other employees who share the same boss)

would be associated will mental health, and that this effect would be independent of other characteristics of leader behaviour being studied. Namely, relative disrespectfulness was expected to contribute to poorer mental health independent of the extent to which leaders behave in disrespectful or demanding ways considered in an absolute sense.

Hypothesis 3: Disrespectful leader treatment, relative to other employees with the same leader, is independently related to subordinate mental health.

Demanding Behaviours

The above line of thinking regarding relative standing was not expected to apply to demanding/production-oriented behaviours because of the absence of a clear connection between relative "demandingness" and in-group status. Leaders may be more or less demanding with certain subordinates for a variety of reasons. For example, they may feel certain subordinates are more capable or have greater potential than other employees and therefore require more of them (which could signal greater employee in-group status). On the other hand, it seems equally reasonable to expect that supervisors are more demanding of subordinates they approve less of or dislike (thereby signalling lower in-group status). Given that no a priori theory or research findings could be identified to convincingly suggest what relative "demandingness" from one's leader would signal regarding an individual's in-group status, no hypothesis regarding its relation with subordinate mental health was advanced. The question of whether relative treatment would contribute to mental health independent of absolute treatment was therefore examined in an exploratory fashion.

Cross-sectional Data, Common Method Variance, and Objectivity

Common method variance has been advanced as an explanation for observed associations between variables assessed by means of cross-sectional self-reports (Campbell & Fiske, 1959; Spector, 1992). Because the current study relied on such data, strategies for dealing with the problem of method variance were of particular relevance.

Many different approaches have been used to deal with the problem of common method variance (for a review see Podsakoff et al., 2003). One possible solution for reducing biasing effects associated with common method variance involves escalating the unit of analysis of measured variables (Podsakoff & Organ, 1986). For example, rather than use individual-level reports in statistical analyses, one may aggregate reports across individuals within given units and use aggregated data in analyses. In combining judgments across a number of individuals, aggregate-level data reduce the influence of idiosyncratic responding and individual differences (Spector, 1992). Therefore, presuming agreement across aggregated responses, one can take these higher-level data to reflect more objective or accurate reports of reality (Frese & Zapf, 1988). However, this method necessitates that individual level data be classifiable into meaningful higher-level units. Organizational data lends itself well to such procedures given the inherently hierarchical nature or organizations (Hoffman, 1997). Individuals are nested in work-groups, nested in departments, nested organizations, and so on. Thus, in organizational contexts, rather than studying relations between two or more variables considered at the individual level of analysis, one could calculate means on variables under study for individuals within work-groups and use these higher-level scores in statistical analyses. Although the use of aggregated data is helpful in

dealing with method variance, it is not without its drawbacks. The use of aggregate data may be problematic for both conceptual and methodological reasons.

One problem associated with analyzing associations between aggregated data is that this procedure ignores potentially meaningful variance within groups (Hofman, 1997). For example, between groups—or at the group level of analysis—a researcher may find a positive relation between income per capita and mortality rates due to motor vehicle accidents. This may lead one to conclude that people with higher incomes are more likely to be involved in motor-vehicle related deaths. However, analyzing within-group (individual-level) relations one may find the opposite association. Namely, an individual's level of income may be negatively associated with motor vehicle mortality. These seemingly contradictory findings may be explained if at the group level, areas with greater average income show more frequent motor-vehicle related deaths simply due to a greater numbers of motor vehicles; whereas at the individual level, higher income is associated with less frequent motor-vehicle related deaths due to the use of safer vehicles. This example highlights the possibility that inferences that are drawn based on aggregated data may be fundamentally different than those that would be drawn if studying individual-level data. The ecological fallacy refers to drawing inappropriate individual-level inferences on the basis of aggregate level data (Thorndike, 1939). Thus, aggregation may be problematic if one hopes to draw inferences regarding individual-level outcomes.

Another major shortcoming of aggregating data to a higher level of analysis is that this procedure significantly reduces the sample size to be examined and, as a result, the associated power of statistical analyses employed. For example, data from 300 employees may be reduced to 50 higher-level groupings (e.g., departments). Consequently, such a

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procedure requires that data from a large number of meaningful higher-level units be obtained.

A solution to such issues involves retaining outcome data at the individual level of analysis and disaggregating higher-level data by assigning a predictor score to each individual representing the higher unit-level variable within which the individual is nested (e.g., individuals within a given unit could all be assigned the mean score on the predictor for that particular unit; Hoffman, 1997). With this approach, statistical analyses would be based on the total number of cases in the data set, not on the total number of higher-level units. Nevertheless, this approach is problematic because it violates the statistical assumption of independence of observations, can alter observed parameter estimates, and can thus lead to erroneous conclusions regarding relations between variables (Raudenbush & Bryk, 2002).

Multilevel modeling procedures offer an alternative data-analytic strategy for dealing with aggregate data which addresses many of the previously stated shortcomings (Hoffman, 1997). These techniques recognize non-independence in data by explicitly modeling both individual-level and group-level associations (Raudenbush & Bryk, 2002). Furthermore, multilevel modeling allows the simultaneous consideration of variables at different levels of analysis and the investigation of within-group and between-group relations (as well as relations between variables that cross different levels of analysis). Thus, multilevel modeling is particularly useful for dealing with the issue of common method variance through escalation of a predictor's unit of analysis in that it allows for the simultaneous analysis of both individual-level and group-level predictors. Furthermore, another practice associated with multilevel modeling may also be expected to provide protection against method bias.

Multilevel researchers, in addition to utilizing individual level predictor variable scores in their raw form, also use group-mean-centered scores. In other words, rather than using an individual's raw scores, one can use the deviation of their score from other individuals in their unit (i.e., by subtracting the unit mean from the individual's score)—as implied by Hypothesis 3 regarding relative disrespectful treatment. Measuring relative disrespectfulness through group-mean-centering (as opposed to asking individuals to rate their relative level of treatment for example) is in some sense a more objective measure of how individuals are treated with respect to others in their group than a direct measure that could be more readily influenced by idiosyncratic responding. This is because individuals are not aware of how others in their group have responded (so such scores are definitely not subjective in one of the common senses of the word). Much like aggregate scores which are derived by obtaining the average for a given variable for a particular group, an individual's group-mean-centered score is partly dependent on separate ratings obtained by others. Group-mean-centering should therefore also reduce the threat of common method bias. In this sense, much like aggregate scores, group-mean-centered scores share conceptual similarity to third party ratings which have typically been considered to be an objective measurement approach (Frese & Zapf, 1988). The use of group-mean-centered scores is therefore expected to attenuate the extent of bias associated with method variance compared to the use of raw scores.

Method

Data Sets

The data that were analyzed in Study One were collected as part of a consulting project conducted in the 1990's (Hornstein et al., 1990). A portion of the data collected for

that project was provided by the faculty supervisor of the present author. No publications have been produce from these data. The primary analyses conducted for the present study extend beyond previous analyses of these data. In particular, multilevel modeling procedures—as used for this study—were not widely known or used when the data were collected.

The available data were collected by having an outside consulting firm mail questionnaires to the homes of employees of an organization that designs and builds large industrial equipment. In a cover letter, sample members were assured of anonymity to their employer concerning both their responses and whether they responded at all. A stamped envelope, addressed to the consulting firm, was enclosed with the questionnaire. Data were collected on a total of 325 employees which were variable with respect to age, gender, tenure, job title, and other demographic information. The group memberships of employees were identified through organization charts and other records supplied by the company. Individuals were considered to be in the same group if they had the same manager or supervisor. Eliminating employees in this initial data set who had no coworkers from the same group and employees for whom a single boss could not be identified with confidence resulted in a sample of 297 employees. An additional 6 cases with missing data were also eliminated resulting in a final sample of 291 employees belonging to 81 groups. Group sizes in this final sample ranged from 2 to 14. All statistical analyses in this study were conducted with this final sample.

Measures

Supervisory behaviours. A portion of the data that was used in this study came from a measure of disrespectful and demanding leader behaviours called the Boss Behaviour

Questionnaire (BBQ; Hornstein et al., 1990). Development of the BBQ is next described. Interviews with 16 business people were conducted to generate a pool of disrespectful supervisory behaviour items. Participants in the interviews were asked: "What behaviours by bosses are disrespectful and assault subordinates' dignity by implying that they are not equal as persons despite the boss/subordinate difference?" and "What are some things that bosses do in order to let subordinates know that, despite differences in power, and despite any level of work performance, they are worthy as persons?" A review of responses to these questions resulted in the identification of eight behavioural domains of disrespect. Six items were developed for each of the eight domains in order to form an initial pool of 48 items for measuring bosses' disrespectful behaviours.

To differentiate between demanding and disrespectful behaviours, six items describing supervisory behaviour which is rigorously focused on production but which does not involve inherent disrespect were also identified. Items were taken from the Michigan Organizational Assessment Questionnaire Production Orientation scale (Cammann, Fichman, Jenkins & Klesh, 1979; Seashore, Lawler, Mirvis & Cammann, 1982).

The pool of 48 disrespectful and six demanding items were then screened in order to identify inappropriate items. This screening process was conducted through a questionnaire completed by 122 working adults. Behaviours that are inherently disrespectful were reasoned to always be inappropriate regardless of circumstance. Items were therefore evaluated in order to ensure that the disrespectful behaviours were seen as inappropriate under various conditions that might excuse unpleasant but less-than-disrespectful behaviours and to ensure that the demanding behaviours were not seen as disrespectful.

In the screening questionnaire, boss behaviours were embedded within six different potentially mitigating circumstances (conditions where otherwise disrespectful boss behaviour might be considered acceptable). Of the six conditions, two involved external factors, two involved boss characteristics, and two involved subordinate characteristics. Respondents rated the boss behaviours on two 8-point scales; one with the anchors "disrespectful" and "respectful" and the other with the anchors "violates dignity" and "does not violate dignity." They were asked to what degree would this example of a boss's behaviour be disrespectful of subordinates, and to what degree would it be a violation of their dignity, if the boss's behaviour occurred (a) "when the organization is in trouble" or "when trying to meet a deadline" (external qualifiers); (b) by "a high powered boss" or an "incompetent boss" (boss characteristics); and, (c) with a "marginally performing" or "slow-producing subordinate" (subordinate characteristics). Respondents evaluated a generic boss in the specified conditions, rather than their own boss. In order to pair each of these six qualifiers with each of the items, 6 different forms were developed and each respondent received a single form. Each form included all boss behaviour items systematically paired with a different qualifier. Although respondents never responded to an item more than once within a given form, the qualifiers were used in all possible combinations with each item. If the behaviour was evaluated as being justified by any circumstance it was removed based on the criteria described next.

Respondents' ratings of behaviours as being disrespectful and a violation dignity were highly correlated ($r = .71$, $p < .001$). The average of these two ratings was therefore used as a criterion to determine which items to retain in the final Boss Behaviour Questionnaire (BBQ). Given that responses on the low end of the scale indicated that the

behaviour was judged to be disrespectful and to violate dignity, the following three criteria were used for item screening: (1) The mean score for the behaviour item on the disrespectful and violates dignity ratings fell below 2.5. The obtained mean scores for these ratings ranged from 1.21 to 3.68. The mean scores for the items ultimately selected ranged from 1.21 to 2.48. (2) The item, on the mean rating, had to be rated a one by at least 25% of the respondents, less than or equal to two by at least 50% of them, and less than or equal to three by at least 75% of them. For nearly all the items selected, none of the ratings was more than three and the modal response was one. (3) Using one-way ANOVA for the analyses, an item would be disqualified if there was a statistically significant difference among qualifiers across the six forms. By using these criteria it was ensured that, within reasonable limits, regardless of mitigating circumstances, the retained items were being identified as describing boss behaviours that were inherently disrespectful toward subordinates.

The six demanding task-oriented boss items were also tested against certain criteria. These were as follows. (1) The mean of the rating for an item had to be greater than 5.5, indicating that although the boss was being demanding, their behaviour was not being characterized as being either disrespectful of subordinates, nor as a violation of their dignity. The obtained means for these items ranged from 5.69 to 7.48. (2) The item, using the average rating, had to be rated a five or more by at least 75% of the respondents, six or more by at least 50%, and seven or more by at least 25% of them. In fact, for all but one of the demanding task-oriented items, 75% of the responses were 6 or greater and in all cases, the modal response was 7.

The screening process ultimately resulted in 30 of the original 48 disrespectful items being retained along with all 6 of the demanding items.

In subsequent factor and correlational analyses of this scale, a short form of the measure was derived (Michela, Van Eron, & Hornstein, 1990). Nine disrespectful items that sampled the range of 8 domains of disrespectful boss behaviour previously identified and that maintained the psychometric properties of the scale were retained for this short form. Research showed that the full-length BBQ scale and the short form were correlated $r = .99$. The nine items from the BBQ short form were used in the present study as a measure of disrespectful supervisory behaviours and appear in Appendix B. In the present sample, the internal consistency reliability (Cronbach's alpha) for this nine-item measure was .91. Three of the six demanding behaviours that form an internally consistent scale were used to form a demanding leader behaviour composite for the present study. These items also appear in Appendix B. In the present sample, Cronbach's alpha for this three-item measure was .81. For both disrespectful and demanding leader behaviours, respondents reported how well each of the items described their immediate boss on eight-point Likert-type scales ranging from (1) "strongly disagree" to (8) "strongly agree."

The Pearson correlation between the scales of disrespectful and demanding behaviours was .11. Principal components analysis of both scales' items revealed a two factor structure with one factor being composed of the eight items describing disrespectful behaviours, and the other factor composed of the three demanding, task-oriented items. These two factors account for 62% of the variance in the data. Findings in the pattern matrix after rotation by Promax are presented in Table 1. This pattern of loadings is identical to those in both the component and structure matrices.

TABLE 1

Study One: Rotated Principal Component Loadings of Leader Behaviours

Leader behaviour scale items	Features of leader behaviours	
	Disrespectful	Demanding
My boss deliberately provides false or misleading information to subordinates	**.757**	-.091
My boss tells subordinates how they should be spending their time when not at work	**.571**	-.104
My boss calls subordinates unflattering names	**.756**	-.045
My boss treats subordinates as servants	**.859**	.026
My boss will make subordinates "pay" if they do not carry out his/her demands	**.782**	-.001
My boss is tougher on some subordinates because s/he dislikes them regardless of their work	**.791**	.020
My boss shows no regard for subordinates' opinions	**.758**	.115
My boss displaces blame for failures onto subordinates	**.790**	-.029
My boss reprimands subordinates in public	**.709**	.090
My boss demands that his/her subordinates do high quality work	-.010	**.856**
My boss insists that his/her subordinates work hard	.061	**.842**
My boss demands that subordinates give their best effort	-.079	**.888**

Note. The highest loading across columns for each scale item appears in bold. Rotation was by Promax with Kaiser Normalization, and the pattern matrix is shown here. Cases were 291 employees.

Mental health. A 16-item scale assessing symptoms of depression and anxiety was used as a measure of mental health. These items are presented in Appendix B. All items were retained to form an indicator of mental health given that they formed an internally consistent scale. In the present sample, Cronbach's alpha for this 16-item measure was .90. Respondents reported how much discomfort the problem listed in each item caused them during the past month on a scale whose response options were: 1 = Not at all, 2 = A little bit, 3 = Moderately, 4 = Quite a bit, 5 = Extremely. Therefore, higher scores on this scale represented worse mental health.

Data Analytic Approach

The data analytic model being tested was hierarchical in nature; the outcome variable (mental health) was considered at the individual- (i.e., employee) level of analysis, predictor variables (disrespectful and demanding behaviours) were considered at both the individual- and group-level of analysis. The two levels at which data were treated were therefore (1) individual employees nested within (2) second level work-groups. Employees were considered to be in the same work-group when they shared the same supervisor or manager. Analyses were conducted using multilevel modeling procedures with HLM statistical software program (Raudenbush, Bryk, Cheong, & Congdon, 2001).

Data analytic model. The two-level model used to test the study hypotheses is presented in equation format below. Formally, there are $i = 1, \ldots, n_j$ level-one units (employees) nested within $j = 1, \ldots, J$ level-two units (work-groups). The level-one model determines the relations between the predictor variables (disrespectful and demanding leadership behaviours) and the outcome variable (subordinate mental health) at the individual (employee) level of analysis. The subscript j for each β highlights the fact that a separate

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coefficient is estimated for each work group, that is, the level-one equation is estimated for each work-group.

Level-one Model: $Y_{ij} = \beta_{0j} + \beta_{1j}*X1_{ij} + \beta_{2j}*X2_{ij} + r_{ij}$ (1)

Where:

Y_{ij} = outcome variable (mental health) score for case i in unit j

$X1_{ij}$ = group-mean-centered level-one predictor variable (disrespectful leadership behaviour) score for case i in unit j

$X2_{ij}$ = group-mean-centered level-one predictor variable (demanding leadership behaviour) score for case i in unit j

β_{0j} = level-one intercept term for unit j

β_{1j} = level-one slope coefficient describing within-unit associations between X1 and Y for unit j

β_{2j} = level-one slope coefficient describing within-unit associations between X2 and Y for unit j

r_{ij} = level-one random effect describing errors of prediction for case i in unit j

In order to test Hypothesis 3 regarding relative standing, $X1_{ij}$ and $X2_{ij}$ scores were group-mean-centered. In other words, the group mean was subtracted from the raw score of each employee on these variables. This procedure provides scores which represent employees' relative standing on these variables (disrespectful and demanding leadership behaviours) within their work-group. This results in what is known as a frog-pond model in the multilevel modeling literature (Firebaugh, 1980).

As just mentioned, at level-one a within-group model is estimated separately for each group. At level-two, as depicted in the equation seen below, intercept and slope (i.e., β)

coefficients obtained at level-one for the various work-groups are treated as separate outcome variables.

Level-two Model: $\quad \beta_{0j} = \gamma_{00} + \gamma_{01}*G1_j + \gamma_{02}*G2_j + u_{0j}$ (2.1)

$$\beta_{1j} = \gamma_{10} + u_{1j} \qquad (2.2)$$

$$\beta_{2j} = \gamma_{20} + u_{2j} \qquad (2.3)$$

Where:

γ_{00} = level-two intercept term

$G1_j$ = first level-two predictor variable (mean level of disrespectful behaviours for each unit—aggregate scores)

$G2_j$ = second level-two predictor variable (mean level of demanding behaviours for each unit—aggregate scores)

γ_{01} = level-two slope coefficient representing the direct effect of $G1_j$ on Y

γ_{02} = level-two slope coefficient representing the direct effect of $G2_j$ on Y

γ_{10} = level-two slope coefficient representing the mean direct effect of X1 on Y pooled across all units

γ_{20} = level-two slope coefficient representing the mean direct effect of X2 on Y pooled across all units

u_{0j} = level-two random effect term associated with β_{0j}

u_{1j} = level-two random effect term associated with β_{1j}

u_{2j} = level-two random effect term associated with β_{2j}

Each level-one coefficient (β) is thus modeled by level-two coefficients (γ) which are common to all work-groups (representing the central tendency of the β coefficients), and a random effect term, u, which allows for possible (and empirically testable) significant

variability among work-groups in the β parameters. The level-two random effect term's (u's)

associated significance test (a chi-square) indicates whether the predictor-outcome

associations (βs) seen across work-groups are significantly different from one another

(collectively, in an "omnibus" fashion). In other words, it tells whether level-one β

coefficients significantly differ from the pooled γ term. Therefore, in indicating that the

associated β parameter varies significantly across work-groups, a significant level-two

random effect term (u) signals that this variability in β parameters may be further modeled by

a group-level variable (Raudenbush & Bryk, 2002). It makes intuitive sense that if the

relation between individual-level variables varies across different groups (i.e., there is

between-group variability in individual-level relations) that perhaps some characteristic of

the group is responsible for this variability. When the level-two random effect term (u) is not

statistically significant, this indicates that the associated β parameters do not vary

significantly across work-groups and are therefore adequately represented by the pooled γ

term. During statistical analyses, if the random effect terms (u) in the level-two model are

not found to be statistically significant, the model was trimmed (i.e., these non-significant u

terms were removed) and rerun. A corresponding t-test for γ tells whether associated level-

two coefficients are significantly different from zero. Furthermore, a chi-square test is

available for determining whether γ parameters differ significantly from one another.

     In the present models, the level-two predictor variables G1 and G2 represent means

obtained by averaging employee X1 and X2 scores for each work-group. Given that

employees are considered to belong to the same work-group when they share the same

supervisor or manager, these averages are taken to represent a particular leader's general

degree of disrespectfulness and demandingness. Using means and the individual level data

used to derive them in the same prediction equation can lead to issues of multicollinearity. In the present case this was avoided because individual-level predictors were group-mean-centered. This results in orthogonal level-one and level-two predictors, thus avoiding issues surrounding multicollinearity (Raudenbush, 1989).

In order to illustrate the correspondence between the study hypotheses and elements of the above presented equations, equations 2.1, 2.2, and 2.3 are substituted into equation 1. Doing so we gives:

$$Y_{ij} = \gamma_{00} + \gamma_{01}*G_{1j} + \gamma_{02}*G_{2j} + \gamma_{10}* X1_{ij} + \gamma_{20}* X2_{ij} + r_{ij} + u_{0j} + u_{1j}* X1_{ij} + u_{2j}* X2_{ij} \qquad (3)$$

From this substitution we see that an individual's mental health (Y_{ij}) is a function of an intercept (γ_{00}), two group-level predictors (G_{1j} and G_{2j}), two individual-level group-mean-centered predictors ($X1_{ij}$ and $X2_{ij}$) and error ($r_{ij} + u_{0j} + u_{1j}* X1_{ij} + u_{2j}* X2_{ij}$). Hypothesis 1 predicts a direct effect of a leader's level of disrespectfulness on subordinate mental health. This would be confirmed given a statistically significant γ_{01} term (the slope coefficient associated with G_{1j}—group or level disrespectfulness). Hypothesis 2 predicts a direct effect of a leader's level of demandingness on subordinate mental health. This would be confirmed given a statistically significant γ_{02} term (the slope coefficient associated with G_{2j}—group level demandingness). Hypothesis 3 predicts a direct effect of relative disrespectful leader treatment on mental health. This hypothesis would be confirmed given a significant γ_{10} term (the slope coefficient associated with $X1_{ij}$—person level relative disrespectfulness).

Within-group agreement as a justification for aggregations. As previously stated, level-two variables (G1 and G2) being used as predictor of β parameters represent aggregated level-one variables (i.e., group means). Before using group-level variables that are aggregates of lower-level data and assuming a lower-level construct has group-level effects,

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it is important to demonstrate agreement among group members (Bliese, 2000). The

intraclass correlation coefficient (ICC) provides an estimate of the proportion of the total

variance of a variable that is explained by unit membership (Bliese, 2000). ICC may be

interpreted as an estimate of the extent to which raters are interchangeable—that is, the

extent to which one rater from a group may represent all the raters within the group. In other

words, it may be taken as an index of inter-rater reliability (James, 1982). The larger the

ICC, the more alike the raters are. Thus, ICC can be used as a criterion for determining

whether aggregation is reasonable (Bliese, 2000).

To obtain ICC values, separate "fully unconditional models" (Raudenbush & Bryk,

2002) were estimated using disrespectful and demanding leader behaviours as outcome

variables modeled only by group membership (no predictor variables are included in these

models, only the nesting of cases into units is specified). A fully unconditional model is

equivalent to one-way random effects ANOVA. The two-level fully unconditional model is

presented in equation format below.

Level-one Model:	$Y_{ij} = \beta_{0j} + r_{ij}$	(4)
Level-two Model:	$\beta_{0j} = \gamma_{00} + u_{0j}$	(5)

Where:

Y_{ij} = Outcome variable (disrespectful and demanding leader behaviours) score for case i in

unit j

β_{0j} = level-one intercept term for unit j representing the mean outcome for unit j

r_{ij} = level-one random effect representing the deviation of case i from the mean of its unit

γ_{00} = level-two intercept term representing the grand-mean outcome across all j units

u_{0j} = Level-two random effect term associated with β_{0j} representing the deviation of the mean outcome for unit j from the grand-mean outcome across all j units.

Two fully unconditional models such as depicted above were estimated, one for each outcome (disrespectful and demanding leader behaviours). Finding in these models for the level-two random effect terms (u_{0j}) are of interest. The u_{0j} term for disrespectful leader behaviours was statistically significant ($\chi^2 = 111.23$, p < .05), as was the u_{0j} term for demanding leader behaviours ($\chi^2 = 102.24$, p < .05). These findings indicate that there is significant variability across β_{0j} terms (work-group means) for both outcome variables. In other words, leaders were seen to differ in terms of the extent to which they display disrespectful and demanding leadership behaviours (as expressed by the average ratings of their subordinates on these variables). Furthermore, the ICC value obtained for disrespectful leader behaviours was .951 indicating that 9.51% of the variability in employee responses on this variable can be modeled by group membership alone. The ICC value obtained for demanding leader behaviours was .602. These ICC values are consistent with those obtained in prior research (Bliese & Halverson, 1996). These findings established the appropriateness of the aggregation procedure.

Results

Table 2 presents the means, standard deviations, reliabilities, and intercorrelations of the study variables. The Pearson correlation between disrespectful and demanding leader behaviours was not statistically significant (r = .11, p > .05). Disrespectful leader behaviours were positively correlated with mental health (r = .32, p < .01), whereas demanding behaviours were not found to be so (r = .06, p > .05). As will be seen, demanding behaviours

did predict mental health when considered residual to other study variables using multilevel

modeling.

TABLE 2

Study One: Variable Means, Standard Deviations, Reliabilities, and Intercorrelations

Variables	Means	SD	Correlations		
			1	2	3
1. Disrespectful leader behaviours	2.40	1.38	(.91)		
2. Demanding leader behaviours	5.86	1.45	.11	(.81)	
3. Mental health	1.57	.56	.32**	.06	(.90)

Note. N = 291 respondents, 81 work-groups. Individual-level Cronbach alpha reliabilities appear along the diagonal in parentheses. Correlations appear in the lower diagonal. SD = standard deviation. Disrespectful and demanding leader behaviour items were rated on 8-point scales; metal health on a 5-point scale where higher scores represent poorer mental health.

** $p < .01$

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The results of multilevel modeling analyses are presented in Table 3. In the second row of this table we see that the parameter estimate for the group-level variable assessing the absolute level of leader disrespectfulness was both positive and statistically significant (γ_{01} = 0.14, p < .001) providing support for hypothesis 1. In the third row of the same table we see that the parameter estimate for the group-level variable assessing the absolute level of leader demandingness was also positive and statistically significant (γ_{02} = 0.08, p < .05) providing support for hypothesis 2. The associated random effect term u_0 was not statistically significant (and was thus trimmed). Given these results, we may say that a leader's absolute levels of disrespectfulness and demandingness are both independently positively associated with individual subordinate mental health, and that the estimated magnitudes for each of these effects are equal across all work-groups (given u_0 was not statistically significant). The magnitude of the parameter estimates can be interpreted as follows: (1) for every one point increase in the level of disrespectfulness of a boss (as assessed by the average rating of their subordinates on the associated 8-point scale), there is a .14 point increase in subordinates self-reported mental health as assessed by the associated 5-ponit scale (thus signalling poorer mental health), (2) for every for every one point increase in the level of demandingness of a boss (as assessed by the average rating of their subordinates on the associated 8-point scale), there is a .08 point increase in subordinates self-reported mental health.

On the following row of Table 3 (the second row from the bottom), we see that the parameter estimate for the individual-level variable assessing relative disrespectfulness was positive and statistically significant (γ_{10} = .14, p < .001) thus signalling a positive association between relative disrespectfulness and mental health and providing support for hypothesis 3. However, the associated random effect term u_1 was also statistically significant (χ^2 = 121.64,

$p < .001$) suggesting significant variability in this effect across different work-groups. The finding that the association between relative-disrespectfulness and mental health varies across different work group suggests that a characteristic of the work group (in this case of the leader) may be responsible for this variability. Given the variable here was group mean centered, these findings indicate that for every one point deviation in an individual's report of their boss's level of disrespectfulness relative to the mean from that boss, there is an .14 point increase in self-reported mental health. This suggests that the more disrespectfully a boss treats a subordinate relative to their other subordinates, the poorer the subordinates mental health will be. In the last row at the bottom of the Table we see that the parameter estimate for the individual-level variable assessing relative demandingness was not significant ($\gamma_{20} = -.03$, $p > .05$) nor was its associated random effect term u_2 (and was thus trimmed from final model). Consequently, no consistent relationship between relative demandingness and mental heath could be identified.

TABLE 3

Study One: Fixed Effect Parameter Estimates of the Multilevel
Model for the Mental Health Outcome Variable

Predictor	Parameter Name	Parameter Estimate
Intercept	γ_{00}	.75***
Disrespectful leader behaviours (aggregate scores)	γ_{01}	.14***
Demanding leader behaviours (aggregate scores)	γ_{02}	.08*
Disrespectful leader behaviours (group-mean-centered scores)	γ_{10}	.14***
Demanding leader behaviours (group-mean-centered scores)	γ_{20}	-.03

Note: The level-2 equation included the random parameters u_1 for which the statistically significant findings are presented in the text. N = 291 respondents, 81 work-groups. Disrespectful and demanding leader behaviour items were rated on 8-point scales; metal health on a 5-point scale.

* $p < .05$ *** $p < .001$

Discussion

The main goal of the current study was to identify disrespectfulness as a specific feature of interpersonal behaviour that is responsible for unique effects on employee mental health over and above the possible effects of other features. Two separate forms of leader behaviour were considered as predictors of subordinate mental health. Behaviours that are inherently disrespectful in nature and ones that are demanding in nature but not inherently disrespectful were considered.

Consistent with hypotheses 1 and 2 respectively, it was demonstrated that subordinates of leaders who were higher in terms of disrespectfulness and demandingness reported poorer mental health. Both disrespectful and demanding behaviour made independent contributions to explaining outcome variance. Here, a leader's levels of disrespectfulness and demandingness were represented by means. Each leader had a score that was obtained by taking the average ratings of their subordinates on these two variables. Using mean or aggregate scores represents one approach to reducing the effects of common method bias and such scores can be taken to represent more objective indicators than individual level raw scores (Frese & Zapf, 1988; Spector, 1992).

In addition to findings for aggregate predictors, relative disrespectfulness was also found to predict subordinate mental health. Consistent with Hypothesis 3 (a frog-pond hypothesis), subordinates reporting that their leader engaged in greater disrespectful behaviours (compared to other subordinates in their work group) reported lower mental health. Importantly, these findings were also independent of group level effects. At the group level, disrespectful leaders have subordinates that are worse off in terms of mental health over and above the effects of how demanding they are, but independent of that, within

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groups, subordinates that are treated more disrespectfully relative to others in their group suffer further detriments to mental health. In other words, findings for leader disrespectfulness at individual and group levels independently contributed to variance in employee mental health.

Although findings for aggregate variables were of main interest for demonstrating the unique effects of disrespectfulness (independent of other potential harmful interpersonal leader behaviour) on employee well-being, findings regarding relative standing are also worthy of notice. Despite convincing theoretical arguments for expecting relative standing to matter in the context of occupational stress, to our knowledge only one study in this literature has thus far presented evidence for a frog-pond effect (Van Yperen & Snijders, 2000).

Due to the cross-sectional nature of the data used and possible influence of common method bias, it is particularly noteworthy that identified associations between disrespectful leadership behaviours and subordinate mental health involved aggregate (group-level) and group-mean-centered predictors because these transformations are expected to result in less bias.

Together, the current study results support disrespectfulness as a specific feature of interpersonal leader behaviours associated with detriments to employee well-being and our theorizing that disrespect results in harm to self-worth and social standing. More generally, consistent with the occupational stress literature, findings also provide support that interpersonal workplace interactions can be an important contributor to employee well-being warranting further study. In addition to theoretical implications, study findings also point to practical implications for organizations.

Associations between disrespectfulness and subordinate mental health suggest that organizations should strive to prevent disrespectful leader behaviours if associated detriments to employee well-being are to be avoided. Importantly, the BBQ points to specific leadership behaviour that have been evaluated as being inherently disrespectful (i.e., unacceptable even under a variety circumstances that might excuse negative behaviour; Hornstein et al., 1990) and demonstrated to be associated with subordinate well-being. Organizations seeking to manage such behaviour may do so by establishing, communicating, and visibly enforcing policies against such interpersonal treatment. Additionally, the application of leader-targeted interventions (e.g., training) that could foster more respectful treatment of subordinates by leaders and discourage inappropriate behaviour may also be considered.

The finding that relative disrespectfulness independently contributed to employee well-being above absolute levels of disrespectful treatment points to further practical implications. This finding suggests that not only should disrespectful behaviour be avoided, but leaders should also treat all their subordinates in a consistent fashion. Research supports the notion that inconsistent leadership is considered unfair and detrimental to employee well-being (De Cremer, 2003). Admittedly, assessing consistency per se (as opposed to relative treatment as was done in this study), and demonstrating an association between inconsistent leadership behaviour and employee well-being would have more directly supported such suggestions. For example, it would have been desirable to determine the level of agreement within groups (i.e., among subordinates of a given leader) regarding the extent of a leader's disrespectfulness using a measure such as the Average Deviation Index (Burke, Finkelstein, & Dusig, 1999), and use this consistency measure as a group-level predictor of employee well-being. Unfortunately, this was note feasible because of insufficient numbers of within-

unit respondents. Nevertheless, current study findings suggest that both relative and absolute levels of disrespectful leader behaviour are harmful to employee well-being. Therefore, measures taken to encourage consistent and respectful leadership behaviour can be expected to be beneficial to employee well-being.

Although a leader's absolute level of demandingness was also found to be detrimental to employee well-being, practical implications of those findings are less straightforward. Organizations would likely be hesitant to discourage demandingness given that such behaviour may be thought to contribute to employee performance and may very well be viewed as part of effective leadership. Given the large demands on organizations to improve the effectiveness and efficiency of their employees, certain leaders may be unwilling to be less demanding of their subordinates. However, organizations should be mindful that although such behaviour may be thought to lead to positive outcomes such as enhanced productivity, excessive demands may come at the cost of employee mental health.

Although support was found for the study hypotheses, some limitations of the study should be acknowledged. As previously mentioned, common method bias is possible when data are collected from a single source, as was the case in the present study. However, several features of the study are noteworthy with respect to protecting against bias that may be associated with cross-sectional methods. To begin, the survey was designed such that each variable used a different response scale, thus minimizing consistency and response biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Also, special measures were taken to protect respondent anonymity and reduce evaluation apprehension, thus further reducing likelihood of bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Furthermore, although the impact of common method variance on observed associations can not be completely ruled

out, it is noteworthy that such bias can be a less problematic when aggregate constructs are used as was the case in the present study (Podsakoff et al., 2003). Consequently, it seems unlikely that method variance could completely account for identified unit-level findings. Furthermore, although individual-level findings are generally expected to be influenced by method bias to a greater extent than unit-level findings, the present use of group-mean-centered individual-level predictors is also expected to reduce possible bias. Consistent with reviews of the effects of common method variance in past research (Spector, 1992), we further argue that although the magnitude of identified relations may be influenced, it is unlikely that they completely reflect the influence of bias. It is also noteworthy that identified relations were consistent with theorized hypotheses. Despite measures taken to guard against bias, additional evidence consistent with our findings using alternative approaches to guard against bias would further support our theorizing.

Another important limitation of the present study follows from the use of a self-report measure of mental health. The present study findings were taken to suggest that disrespectful and demanding leader treatment lead to poorer mental health, but alternative interpretations may also be forwarded. For example, it has been argued that negative affectivity (NA) may act to spuriously inflate stressor-outcome relations by biasing self-reports of such measures (Watson, Pennebaker, & Folger, 1987). By this reasoning individuals higher in NA would report higher levels of disrespectfulness, demandingness, and mental health problems. However, findings pertaining to Hypotheses 1 and 2 involved group-level disrespectfulness and demandingness (mean ratings for all members with a given supervisor). For NA to bias findings relating to aggregate predictors, all members within the various work groups investigated would have to share similar levels of NA. It is therefore less likely that

Hypothesis 1 and 2 were the result of such bias. However, the finding relating to relative disrespectfulness (Hypothesis 3) involved individual-level variables. It is conceivable that within a given work group, individuals' who are higher in NA relative others also report higher levels of disrespectfulness and poorer mental health. However, one might also expect that reports of demandingness would be similarly influenced by NA but no relationship between relative demandingness and mental health was observed. Nevertheless, controlling for NA in further research involving individual-level self-reported predictor and outcome variables may be advisable (Brief, Burke, George, Robinson, & Webster, 1988; Payne, 1988).

Although this study helped identify disrespect as a construct important to understanding the detrimental effects of negative interpersonal behaviours on employee well-being, an alternative approach to establishing the relevance of disrespect would also be important. Given that negative interpersonal behaviours at work are not only instigated by supervisors, behaviours as instigated by other employees should be considered as well. Given that the stress-literature has identified a variety of employee-related negative consequences, other conceptualization of well-being should also be considered.

Findings also point to other important research directions. Existing analyses found that the association between relative disrespectfulness and mental health varied significantly across work-groups. This would suggest that a group-level variable may moderate this relation. Unfortunately, the unavailability of relevant group-level variables in this study limited our ability to further investigate this finding. The models considered in this study involved only direct effects (at both the individual and group levels of analysis). However, moderated relations, including cross-level moderation (i.e. when the relation between two

individual-level variables is moderated by a group-level variable) as implied by the random effect finding in this study, would be of conceptual and practical interest. The moderating influence of individual and contextual variables on the experience of disrespectfulness and associated detriments to well-being would be of theoretical interest. Furthermore, common method variance is less worrisome when testing and interpreting interaction effects because correlated residuals do not contribute to spurious interactions, they simply attenuate the ability to detect them (Evans, 1985). Consequently, the study of interaction effects would also be of practical benefit when analyzing cross-sectional data.

STUDY TWO

Interpersonal Workplace Behaviour and Employee Well-Being

Study One examined the association between specific forms of interpersonal behaviour as predictors of employee well-being as assessed by mental health indicators. Leader behaviours that are inherently disrespectful in nature were contrasted with behaviours that are production-focused and demanding in nature but not inherently disrespectful. The present study extends beyond the first study in a number of ways. First, a different approach was used to study the importance of disrespect in understanding the effects of negative interpersonal treatment on employee well-being. Second, consistent with the literature regarding outcomes of negative interpersonal treatment, a broader range of negative employee-related consequences was considered. Third, a larger number of interpersonal interactions as initiated by a broader range of workplace actors (e.g., peers, subordinates, and superiors) were considered. Fourth, a more elaborate model that includes a mediator and individual-level and group-level moderators of the relation between interpersonal behaviours and employee-related consequences was considered. Variables in this model were identified on the basis of reviews of relevant theories and literatures. Fifth, additional strategies for dealing with inferential threats associated with the use of cross-sectional data were utilized.

Study Framework

A recurrent observation in the stress literature is that although environmental demands or pressures are often associated with negative consequences for individuals, a great extent of difference in the degree and kind of outcomes is seen. Therefore, what may be harmful for some may not be for others. This may be explained given that people differ in their interpretations, sensitivities, and reactions to different events. Within the context of the

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stress process, it has been suggested that in order to better understand the differential

individual outcomes associated with exposure to similar conditions: "We must take into

account cognitive processes that intervene between the encounter and the reaction, and the

factors that affect the nature of this mediation (Lazarus& Folkman, 1984, p.23)." Within the

context of interpersonal workplace interactions, this entails identifying the cognitive

processes that mediate the association between exposure to interpersonal events and negative

outcomes of such exposure, as well as factors that influence this mediation. This represents a

major goal for the current study. Because most of the work that has sought to study the

relevant cognitive processes in the stress process have evolved from general stress

frameworks meant to apply to a variety of workplace stressors—not from models meant to

specifically apply to interpersonal stressors—this represents a novel goal for the literature.

Several stress theories have emphasized the importance of an individual's cognitive

interpretation of events they experience (i.e., the meaning ascribed to events) in

understanding the effects of such events on individuals. Although meaning-centered theories

of stress are most commonly associated with Lazarus (1996) and Lazarus & Folkman (1984,

1987), prior to such theories other authors also commented on the importance of cognitive

evaluations in the stress process (e.g., French & Kahn, 1962; Fritz & Mathewson, 1957;

McGrath, 1976; Wallace, 1956).

Other areas of psychology have also discussed the importance of meaning ascribed to

events. For example, such thinking is central to symbolic interactionism—one of the most

significant and lasting sociological perspectives (Plummer, 2000). Symbolic interactionists

consider that an individual's response to situations is based not on the objective situation

itself but rather on the subjective meaning they ascribe to it (Plummer, 2000).

In accordance with this division between events, the meanings ascribed to them, and their consequences on individuals, stress researchers have differentiated between the terms stressor, stress, and strain. According to this framework, stressors refer to objective environmental characteristics or events; stress reflects an individual's subjective experience of these characteristics or events, and strain refers to negative psychological and physiological responses that result from this experience (Pratt & Barling, 1988). Consistent with prior suggestions (Barling, 1996) and applications (Keashly & Harvey, 2005), this framework and associated terminology will be used in the present investigation.

Stressors

There has been much discussion of objectivity and subjectivity with respect to measurement in job stress research, particularly due to its inherent connections to methodological issues (e.g., Spector, 1999). Such discussions, for example, have considered the benefits and drawbacks of objective and subjective measurement approaches (Frese & Zapf, 1999; Perrewé & Zellars, 1999; Schaubroeck, 1999), as well as the convergence between subjective and objective measures (Spector, 1992). As noted by Frese and Zapf (1988), subjective measurement approaches have typically been associated with self-reports, whereas objective approaches have been associated with expert or third party ratings, physical methods such as observation, as well as document analyses. However, to use their example to illustrate the inadequacy of these common perspectives:

> "When a person tells us (in a questionnaire) that he is 25, we take it to reflect reality. On the other hand, if he tells us that he does not like his job, we tend to assume that a lot more appraisal processes have taken place to arrive at this judgment (Frese & Zapf, 1988)."

Consequently, they propose that all self-reports can be construed to lie along a dimension from low to high in dependency on cognitive or emotional processing and that this dependency is a factor of item wording. Consistent with this line of thinking, researchers have sought to develop stressor measures whose items are worded as objectively as possible (e.g., Fitzgerald & Schullman, 1993). Efforts have been taken to word items in neutral and behavioural terms, as well as to avoid the use of labels (e.g., hostile, offensive, insulting, etc.) implying interpretation of behaviours or events in question. These strategies are particularly appropriate for the measurement of interpersonal workplace stressors given that—due to their often hidden nature—such behaviours are often difficult to assess using third party ratings, observation, document analysis, or other methods typically associated with objective measurement. Wording stressor items more objectively also has the added benefit of minimizing confounding with self-reported strains which are by nature more interpretive and emotionally laden (Hoel, Rayner, & Cooper, 1999). Furthermore, measuring interpersonal interactions while attempting to minimize the assignment of meaning to such events is consistent with the suggested study framework and the proposed definition of stressors as objective events.

Attempts have been made to develop more factually-based or behaviourally-worded stressor measures in order to reduce subjectivity of self-reports. Examples include the Sexual Experiences Questionnaire (SEQ; Fitzgerald, Gelfand, & Drasgow, 1995) developed to measure sexually harassing behaviours, the Factual Autonomy Scale (FAS; Spector & Fox, 2003) for measuring work autonomy, and the Aggressive Experiences Scale (AES; Glomb, 1998) which measures the frequency with which individuals engage in and are targets of aggressive behaviours at work. However, with respect to the type of interpersonal

behaviours of interest in the present study, researchers have yet to present any form of empirical evidence suggesting that their scale items are worded in such a fashion as to minimize interpretation of or the assignment of meaning to events, despite the conceptual and practical benefits of using more objectively worded items. Reviewing widely used measures of interpersonal social stressors (e.g., measures of constructs such as those presented in Appendix A) reveals that many seem to contain highly interpretive items. A major short-coming in the existing literature is that associations between such measures and negative individual outcomes could be subject to this confound. Consequently, an important goal for the present study was to develop and validate a more objective self-report measure of interpersonal workplace stressors. The demonstration of stressor-strain associations using a more objectively worded and validated social-stressor measure would be novel and worthwhile for the occupational stress literature.

Stress

According to the current framework, whereas stressors are defined as actual objective events, stress is said to refer to an individual's experience of these events. Stress is thus meant to reflect how an individual construes, appraises, or psychologically experiences stressors. What form of interpretation then is appropriate for qualifying interpersonal workplace stressors? In Study One we theorized (and presented empirical evidence) that disrespect is an important feature of interpersonal events associated with individual well-being. The justice literature offers relevant insights into the concept of disrespect and for operationalizing the relevant experiential component associated with harmful interpersonal behaviours.

Organizational justice researchers have discussed how perceptions of the quality of interpersonal treatment that employees receive influence their fairness judgments and a variety of organizationally relevant outcomes (Colquitt, Conlon, Wessen, Porter, & Yee Ng, 2001). Namely, research has shown that employees' perceptions of the quality of interpersonal treatment they receive is associated with their job satisfaction, organizational commitment, work withdrawal (e.g., turnover intensions), and other outcomes (Colquitt et al., 2001).

Interpersonal justice (Greenberg, 1993) is specifically concerned with the perceived quality of interpersonal treatment one receives, assessing quality in terms of respectfulness, and other related features such as propriety, dignity, politeness, sensitivity, and so on. Interpersonal justice should therefore represent a relevant construct (related to the concept of disrespect) for capturing the psychological relevance or meaning ascribed to interpersonal workplace stressors. The label of justice is relevant for qualifying the nature of disrespectful behaviour because of the link between these concepts.

When individuals are asked to describe instances when they have been treated unjustly, the most commonly elicited response relates to circumstances where one experienced some form of disrespectful interpersonal treatment (Lupfer, Weeks, Doan, & Houston, 2000; Messick, Bloom, Boldizar, & Samuelson, 1985; Mikula, 1986; Mikula, Petri, & Tanzer, 1990); this is also true of injustices experienced in organizational contexts as reported by employees (e.g., Aram & Salipante, 1981; Bies & Tripp, 1996). To qualify interpersonal treatment as being disrespectful would thus be tantamount to perceiving it as being unjust. Miller (2001) provides two alternative accounts to explain why disrespectful treatment is regarded as unjust. First, he suggests that disrespectful treatment may be

experienced as unjust because it deprives people of a fundamental right to which they are entitled (Bourdieu, 1965). People believe they are entitled to respectful treatment from others (Baron 1993, Bies & Moag 1986); the violation of such a basic right is consequently experienced as unjust. Second, he suggests that disrespectful treatment creates a social imbalance by subjecting people to something they do not deserve (Miller, 1993). Consistent with lay persons' accounts, researchers have also operationalized respect and interpersonal injustice nearly identically. For example, Heuer, Blumenthal, Douglas, and Weinblatt's (1999) four-item measure of respect and Colquitt's (2001) four-item measure of interpersonal justice share three common items.

Given the above discussion, it is expected that the association between interpersonal workplace events (social stressors) and negative individual consequences (strain) will be mediated by interpersonal justice perceptions. In other words, it is expected that interpersonal interactions are associated with negative consequences because they are viewed as interpersonally unjust (i.e., disrespectful). The specific negative employee-related consequences considered are presented next.

Hypothesis 1: The relation between interpersonal workplace events and negative employee-related outcomes is mediated by perceived interpersonal justice.

Strain

Occupational stress researchers have conceptualized strains broadly, having studied a variety of negative outcomes of stress (Jackson & Schuler, 1985; Kahn & Byosiere, 1992). Stains can be categorized as psychological, physiological, and behavioural with psychological strains being the most commonly studied (Cooper, Dewe, & O'Driscoll, 2001; Jex & Beehr, 1991; Kahn & Byosiere, 1992). In addition to mental health-related outcomes

such as feelings of depression and anxiety, employee job-related attitudes have also been conceptualized as further representations of individual well-being and thus as relevant indicators of psychological strain (Cooper, Dewe, & O'Driscoll, 2001). Interestingly, although researchers from the stress literature and justice literature have employed different approaches to conceptualize and study negative interpersonal workplace interactions, similar negative outcomes of such events have been identified (e.g., Colquitt et al., 2001; Cooper, Dewe, & O'Driscoll, 2001). Consistent with such research and with the language used in the current literature, in addition to mental health, the present investigation also considers job-satisfaction, organizational commitment, and turnover intentions as further representations of strain.

Study Moderators

Both the justice and occupational stress literatures have examined a variety of moderator variables. However, neither literature has yet to study moderators within the context of the proposed study framework, raising the interesting question as to if and where—within the proposed mediation sequence—moderators may be exerting their influence. For example, variables may moderate the association between stressors and the proposed mediator, between the proposed mediator and strains, or between both these links[1]. To our knowledge, the existing literature has yet to investigate where moderators act within such a framework. In fact, measures of occupational stressors (social stressors in particular), often confound objective events with the experience or interpretation of such events. It is therefore unclear within the existing literature whether moderator variables investigated thus far influence the strength of the association between the objective experience of interpersonal

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[1] This assumes a fully mediated model. Given partial mediation, a moderator may also influence the direct path from stressors to strain.

events (stressors) and how these events are experienced psychologically (stress), or the association between the psychological experience of events (stress) and negative personal outcomes (strain). The present investigation was therefore expected to be the first attempt to disentangle these alternative possibilities representing another important contribution of this research. Attempting such an undertaking with social stressor measures confounded with interpretation or subjective meaning would of course be pointless.

Furthermore, consistent with calls from both literatures to provide greater attention to the role of group-level variables and to adopt multilevel perspectives (e.g., Bliese & Jex, 1999; James, 1993; Liao & Rupp, 2005), this study considered characteristics of individuals and of situations that may act to moderate identified relations. Given that the typical occupational stress study considers a single moderator variable at a time, it has been argued that we lack clear understanding of which variables act as moderators separate from their associations with other potential moderators (Frone, Russell, & Cooper, 1995). This would be especially of interest when studying correlated moderator variables or ones that might be expected to interact with one another. In response to this argument, multiple variables were simultaneously considered as potential moderators in the present investigation. Doing so also allowed the examination of interactions between moderators, which was investigated in a more exploratory fashion.

Stressor-Stress Associations

The first set of moderators considered involve the link between interpersonal workplace events (the current study's stressor variable) and interpersonal justice perceptions (the mediator variable). The following moderators were expected to influence the strength of this association.

Interpersonal workplace norms. Norms are shared beliefs regarding appropriate or inappropriate forms of behaviour in given social contexts (Williams, 1960). They influence how individuals perceive and react to events they experience and their content varies across settings, including workplaces. Different organizations, for example, have different norms regarding acceptable forms of behaviour and such norms are reflected in the organization's culture. Organizational culture, of which norms are an integral defining part (Michela & Burke, 2000), is also understood to shape individuals' perceptions of realities they experience (Schein, 1990). Workplaces differ with respect to the norms they hold surrounding the types of interpersonal behaviours of interest in the present investigation. Military contexts are an extreme example with obvious norms regarding the acceptability of certain forms of negative interpersonal treatment. In such settings, what would typically be labelled as mistreatment in other organizational contexts is often simply seen as an aspect of how things are done there.

Norms, given their potential to influence individual experience and perception, are a concept of interest within occupational stress and organizational justice research. According to Lazarus and Folkman (1984), beliefs are an important factor that influence individuals' appraisals of events. Their concept of beliefs closely relates to the notion of norms as it is presently being considered. They state:

"Beliefs are personally formed or culturally shared cognitive configurations (Wrubel et al., 1981). They are preexisting notions about reality which serve as a perceptual lens … In appraisals, beliefs determine what is fact, that is, 'how things are' in the environment, and they shape the understanding of its meaning."

Other occupational stress researchers hold similar views, understanding the culture of a workplace to represent a form of filter through which behaviours are interpreted and through

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which a range of behaviours are accepted or tolerated (Einarsen & Raknes, 1991; Einarsen & Skogstad, 1996). Justice theorists also discuss the role of norms in influencing fairness judgments. In discussing the social implications of injustice, Bies (1987) states that: "an injustice is not merely a judgment … an injustice is a violation of a social norm that causes harm to someone (p.289)." This line of thinking figures in most current theorizing in this field and also figures as a specific hypothesis in justice theories. For example, to use a theory from the justice literature that will be returned to later in this thesis, according to Fairness Theory (Folger & Cropanzano, 1998, 2001), one of the factors necessary for a situation to be viewed as unjust is that the action in question be seen as a violation of some ethical/moral norm. Behaviours that do not violate norms (normative behaviour) thus would not be considered unjust. Given this discussion, it was expected that employees in organizational units (e.g., departments) characterized by norms that are more tolerant of negative interpersonal interactions would perceive less interpersonal injustice when experiencing such interactions than employees from units where such interactions are considered less acceptable. Stated differently, the association between social stressors and injustice perceptions is expected to be stronger in settings in which negative interactions are less tolerated. In the present context interpersonal workplace norms refer to norms surrounding the acceptability and tolerance of negative interpersonal workplace behaviour.

> *Hypothesis 2:* Interpersonal workplace norms moderates the relation between interpersonal workplace events and interpersonal justice perceptions such that the relation is stronger in settings where there is lower tolerance for negative interpersonal behaviours.

Interpersonal workplace values. The academic literature presents a variety of categorizations of human values. Values related to workplace contexts have been referred to as work values (Sagie & Elizur, 1996) and have been defined as the importance an individual places on specific goals or desired outcomes, in work contexts (Elizur, 1984). Locke and Taylor (1990) identify five values that employees seek to fulfill through work: (1) material, (2) achievement, (3) purpose, (4) social relationship, and (5) enhancement or maintenance of self. They further note that people differ in the extent to which they hold these different values. Thus, with respect to their fourth category, employees are understood to differ in the extent to which the maintenance of positive social relationships at work is of importance to them. Other concepts in psychology are closely tied to this conception of values and this category specifically.

Needs theorists speak of interpersonal relationships as a basic category of needs. For example, Maslow's (1954) belongingness need regards an individual's need "for affectionate relations with people in general, namely, for a place in his group" (p. 89). Similarly, Alderfer's (1969) relatedness need regards the need to be valued and accepted by others.

Lazarus and Folkamn (1984) discuss the concept of commitments within the context of the stress process; acknowledging that among other things commitments pertain to values, they define commitments as those things that have meaning for people and that are important to them. They state, "Any encounter that involves a strongly held commitment will be evaluated as meaningful to the extent that the outcome harms or threatens the commitment" (Lazarus & Folkamn, 1984, p. 56). Commitments are further understood to influence appraisals of experienced environmental events through different mechanisms. They make people more sensitive to particular facets or dimensions of situations. Individuals holding

strong interpersonal needs would thus be more sensitive to social dimensions of situations.

Commitments also influence vulnerability in that the greater strength with which a

commitment is held the greater the potential psychological harm to the individual should the

object of commitment be violated or threatened. This is relevant to Lazarus and Folkman's

(1984) concept of primary appraisal in the stress process. When confronted with a given

environmental stressor, one form of appraisal individuals engage in involves determining

whether the stressor carries implications for well-being; this is labelled the primary appraisal

(Lazarus & Folkman, 1984). If the individual has no investment in the outcomes threatened

by the stressor it is viewed as irrelevant and thus does not lead to negative consequences for

the individual. This is consistent with a second factor deemed necessary for a situation to be

viewed as unjust according to Fairness Theory (Folger & Cropanzano, 1998, 2001). In

addition to the requirement that the event be deemed a violation of a norm (as previously

mentioned), the event must also be aversive to the individual (Folger & Cropanzano, 1998,

2001). A stressor that pertains to something of little importance to an employee would thus

be expected to hold little aversive quality and would consequently not be viewed as unjust.

Given the above discussion, it was expected that exposure to negative interpersonal events at

work would lead to greater perceptions of interpersonal injustice for employees who place

greater importance on work meeting their needs for positive or rewarding social

relationships; employees who do not expect their work to meet their needs for rewarding

social relationships would experience less injustice in the face of such events. In other

words, the association between social-stressors and injustice perceptions is expected to be

stronger for individuals who place higher value on experiencing positive social relationships

at work. In the present context interpersonal workplace values refer to the extent to which

individuals place importance on work meeting their needs for positive or rewarding social relationships.

> *Hypothesis 3*: Interpersonal workplace values moderates the relation between interpersonal workplace events and interpersonal justice perceptions such that this is relation is stronger among individuals who place greater importance on work meeting their needs for positive or rewarding social relationships.

Stress-Strain Associations

The next set of moderators considered involves the link between interpersonal justice perceptions (the mediator variable) and negative employee consequences (strain). Two categories of moderators that were expected to influence the strength of the above association were examined. The first category pertains to social resources, the second to psychological resources (Perlin & Schooler, 1978). Both are understood to alleviate the effects of strains.

Social support. Just as social environments may be a source of negative interpersonal relationships that generate stress, they may also be a source of positive relationships that reduce the harmful effects of stress. Social support has been broadly defined as "resources provided by other persons" (Cohen & Syme, 1985, p.4). When such resources involve provisions of sympathy and caring, social support is said to be emotional; when resources involve provisions of tangible assistance, social support is said to be instrumental (Lim, 1996). Although social support has received a great deal of attention in the occupational stress literature (Kahn & Byosiere, 1992), this construct seems to be almost completely absent from the justice literature.

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Environments that provide social support have been hypothesized to act as a buffer for the negative consequences associated with occupational stress (House, 1981; Viswesvaran, Sanchez, & Fisher, 1999). In line with such theorizing, empirical research has demonstrated that the extent of social support provided in different settings moderates the effects of stressors on negative outcomes wherein stressor-strain relations are weaker when there is more social support and stronger when there is less (e.g., Beehr, King, & King, 1990). However, evidence for the buffering effect of social support has been mixed (Beehr, 1995). Bliese and Jex (1999) have proposed that one reason for these equivocal findings may be that researchers have explored social support exclusively at the individual level of analysis (despite often referring to social support as a contextual variable); they suggest social support be investigated at the group level of analysis. Consistent with the above, and with our conceptualization of interpersonal justice perceptions as a measure of stress, it was expected that perceptions of interpersonal injustice would lead to fewer negative consequences for employees in settings with greater social support. Given the conceptualizations of emotional and instrumental social support as separate constructs, both were expected to influence stressor-strain relations.

Hypothesis 4: Emotional social support moderates the relation between interpersonal justice perceptions and employee-related outcomes such that the relation is weaker in settings that provide greater emotional social support.

Hypothesis 5: Instrumental social support moderates the relation between interpersonal justice perceptions and employee-related outcomes such that the relation is weaker in settings that provide greater instrumental social support.

Interpersonal Control. Self-beliefs play an important role in many models of human behaviour (Brief & Aldag, 1981; Jex & Gudanowski, 1992). This construct category also figures prominently in the stress literature. For example, stress research has considered locus of control (e.g., Perrewe, 1987), self-efficacy (e.g., Jex, Bliese, Buzzell, & Primeau, 2001), mastery beliefs (e.g., Summers, DeCotiis, & DeNisi, 1995), and perceived sense of competence (e.g., Bhagat & Allie, 1989). Beliefs about personal control also play an important part of major theoretical approaches to job stress (e.g., Karasek, 1979, Lazarus & Folkman, 1984). Locus of control refers to the extent to which an individual generally believes that the causes of events in their lives are within their control (internal locus of control) or controlled by external factors (external locus of control; Rotter, 1966). In contrast to these general control beliefs, self-efficacy, mastery, and perceived sense of competence refer to beliefs pertaining to more specific contexts. Self-efficacy, the most studied of the three constructs, refers to the extent to which an individual believes that a given course of action can be carried out (Bandura, 1997).

Control-related self-beliefs have typically been studied as moderators in the stress-literature given their presumed ability to alleviate strains. For example, from their review of research on the buffering role of locus of control, Cohen and Edwards (1989) concluded that there is tentative support for its moderating role on the association between life events stress and strain. Similar observations have been made regarding the role of locus of control in organizational contexts (Semmer, 1996). One reason for such inconsistencies may be related to a lack of convergence between measures of control-related self-beliefs and stressors. Spector (1998) has noted that for such beliefs (self-efficacy specifically) to be an effective buffer, beliefs must be relevant to the job stressors under consideration. Of particular

relevance in the present context are beliefs regarding one's ability to successfully handle negative interpersonal events. Interpersonal control refers specifically to perceived agency in social contexts (Paulhus, 1983) and should therefore be relevant. Given the above, it was expected that perceptions of interpersonal injustice would be less strongly associated with strain for employees with stronger interpersonal control beliefs.

> *Hypothesis 6:* Interpersonal control moderates the association between interpersonal justice perceptions and employee-related outcomes such that relation is weaker among individuals higher in interpersonal control.

Stressor-Stress and Stress-Strain Associations

The last moderator considered concerns both links discussed thus far; namely, it was expected to alter the strength of the association between interpersonal workplace events (the stressor variable) and interpersonal justice perceptions (the mediator variable) as well as the association between interpersonal justice perceptions and negative employee-related consequences (strain).

Negative affectivity. The academic literature has shown that certain individuals are generally more prone to negative emotions or moods and are more sensitive to negative experiences than others. This stable characteristic has been labelled negative affectivity (NA). NA is a variable having received considerable attention within the occupational stress literature (Cooper, 2000). Consistent with the view of NA as influencing sensitivity to negative moods and experiences, NA has been shown to moderate relations between stressors and strains such that higher NA individuals experience greater strains following stressor experiences (e.g., Moyle, 1995; Parkes, 1990). Despite evidence in support of its moderating effects, the role of NA in the stress process has been vigorously debated. NA as sensitizer

has been but one of the many suggested roles NA is thought to play in the stress process, and evidence for other substantive roles for NA in the stress process have been found (Spector, Zapf, Chen, & Frese, 2000).

Earlier views regarding the role of NA in the occupational stress process have taken the position that NA acts to spuriously inflate stressor-outcome relations by biasing self-reports of such measures (Watson, Pennebaker, & Folger, 1987). In line with this reasoning, it has been suggested that NA bias be controlled for through statistical partialing (Brief, Burke, George, Robinson, & Webster, 1988; Payne, 1988). Consistent with the biasing effects of NA, research has shown that NA correlates with self-reported health problems, but not with physical indicators of health (Smith, Wallston, & Dwyer, 1995).

NA may be expected to relate to the variables of the present proposed model in a variety of ways. NA may have direct effects on reports of our proposed stressors, stress, and strains, or these variables may influence NA reports. Addressing the directions of causality between such variables would be best addressed in longitudinal studies. In the present context, examining the potential moderating role of NA would be more appropriate given that method variance, which may be present when using a cross-sectional design, does not contribute to spurious interaction effects (Evans, 1985). Therefore, consistent with evidence of its moderating effects in past research, NA was examined as a moderator of the stressor-mediator and mediator-strain links. It was expected that the higher an individual's level of NA, the greater perceptions of injustice they will report when faced with negative interpersonal workplace interactions. Similarly, it was expected that NA would also strengthen the association between interpersonal injustice perceptions and self-reported negative employee-related consequences. Being included in analyses for testing the above

propositions, NA will also serve as a covariate to control for potential biasing of other

hypothesized relations.

> *Hypothesis 7:* NA moderates the relation between interpersonal workplace events and
>
> interpersonal justice perceptions such that the relation is stronger among individuals
>
> higher in NA
>
> *Hypothesis 8:* NA moderates the relation between interpersonal justice perceptions
>
> and employee-related consequences such that the relation is stronger among
>
> individuals higher in NA.

<div align="center">

Proposed Model

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Figure 1 seen below presents a model that seeks to graphically depict the research

hypotheses addressed by the present study and as just presented. These hypotheses are

summarized in Table 4 immediately following this figure. It should be noted that although

the variables under study were identified on the basis of reviews of relevant academic

literatures, other variables could be studied within the suggested study framework. These

variables do not represent an exhaustive list of relevant factors. Also, as previously implied,

the present approach differs from many occupational stress models. Most major stress

models have been developed as general theoretical frameworks for understanding the stress

process and are meant to be broadly applicable to a variety stressors. As a result of this

breadth in applicability, specificity may suffer. Given our interest in interpersonal behaviour

as a form of occupational stressor, a stressor-specific approach was appropriate.

Figure 1: Study Two hypotheses presented in model format

Moderators related to workplace context

Moderators related to individual characteristics
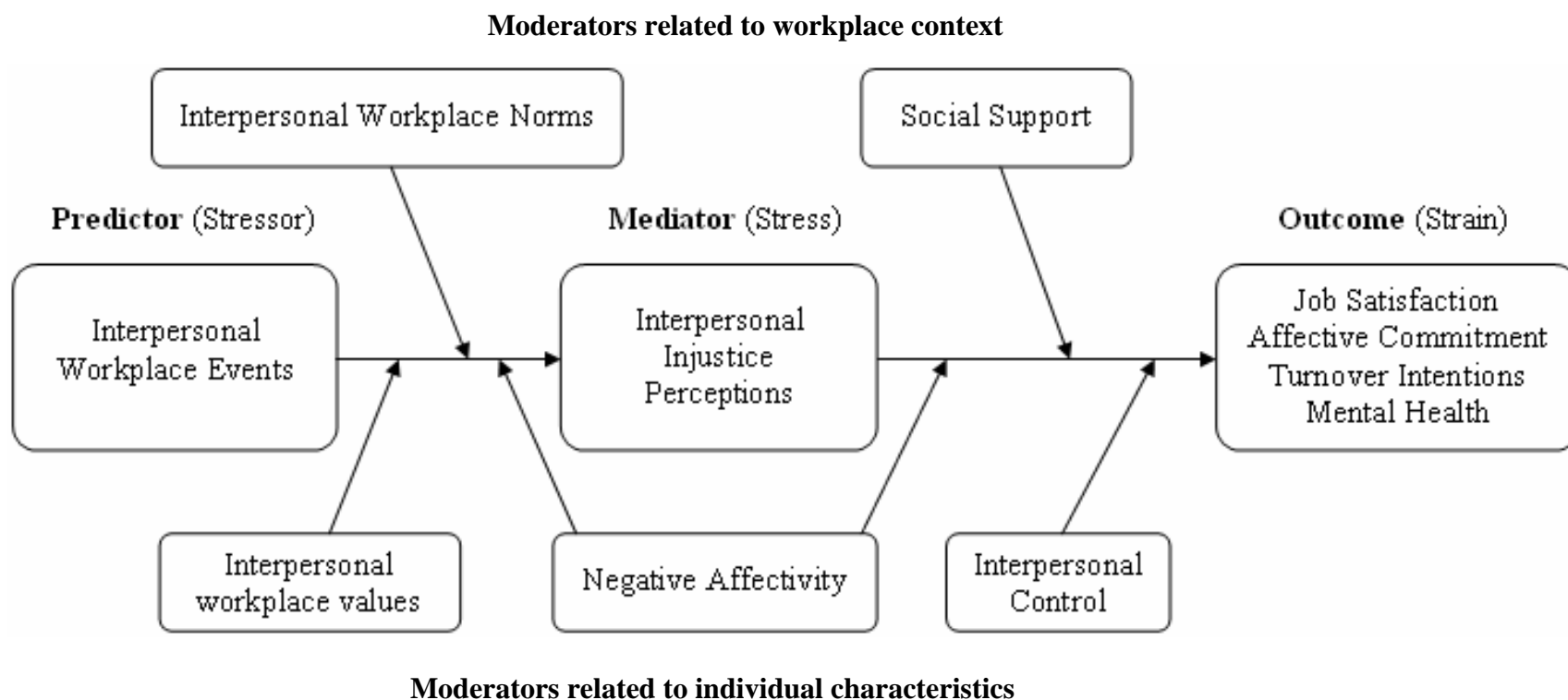
TABLE 4

Study Two Hypotheses

Hypothesis 1: The association between interpersonal workplace events and negative employee-related outcomes is mediated by perceived interpersonal justice.

Hypothesis 2: Interpersonal workplace norms moderates the relation between interpersonal workplace events and interpersonal justice perceptions such that the relation is stronger in settings where there is lower tolerance for negative interpersonal behaviours.

Hypothesis 3: Interpersonal workplace values moderates the relation between interpersonal workplace events and interpersonal justice perceptions such that this is relation is stronger among individuals that that place greater importance on work meeting their needs for positive or rewarding social relationships.

Hypothesis 4: Emotional social support moderates the relation between interpersonal justice perceptions and employee-related outcomes such that the relation is weaker in settings that provide greater emotional social support.

Hypothesis 5: Instrumental social support moderates the relation between interpersonal justice perceptions and employee-related outcomes such that the relation is weaker in settings that provide greater instrumental social support.

Hypothesis 6: Interpersonal control moderates the association between interpersonal justice perceptions and employee-related outcomes such that relation is weaker among individuals higher in interpersonal control.

Hypothesis 7: NA moderates the relation between interpersonal workplace events and interpersonal justice perceptions such that the relation is stronger among individuals higher in NA.

Hypothesis 8: NA moderates the relation between interpersonal justice perceptions and employee-related consequences such that the relation is stronger among individuals higher in NA.

Note: The presence of multiple moderators, specifically of individual and group level moderators, between links in the mediation sequence depicted in Figure 1 allows the testing of three-way interactions involving individual and contextual variables. Given one of the present study's goals was to explore how moderators may interact with one another to influence mediation, possible three-way interaction effects involving individual and group level moderators were also examined. Given the lack of significant existing research and theorizing regarding such interactions, specific hypotheses for these relations were not advanced; rather, they were studied in an exploratory fashion.

Method

Sample and Procedure

A variety of factors were taken into consideration in identifying an appropriate sample and methodology for the present investigation. Some of these factors were raised as concerns by organizations approached for participation in the study; the chosen methodology was therefore developed to some extent to address participant concerns. Factors that were considered included:

1. Associations in occupational stress research have been characterized as relatively weak and this has been argued to be due, in part, to the multiply determined nature of strains (Zapf, Dorman, & Frese, 1996). Furthermore, the stressor variables (interpersonal behaviours) under investigation have been identified in other research as being low rate phenomena (e.g., Saline, 2001). An implication of both these factors is that (1) a relatively large sample size was required to test the study propositions and (2) the investigation of settings where such behaviours are more likely to occur was preferred.

2. Restricted variance in studied variables has been advanced as another reason for failures to identify stronger associations in stress research (e.g., Carayon, 1993). Data from a single organization may restrict variability in certain variables and thus compromise the ability to identify proposed relations. Thus, obtaining data from a number of organizations and occupational groups was also preferable.

3. The presence of moderator variables, if unmeasured, can also contribute to weaker identified stressor-strain associations (Zapf, Dorman, & Frese, 1996). The present investigation examines both individual and group level moderators. However, statistical analyses for testing the proposed moderators also require relatively large sample sizes (Kreft & de Leeuw, 1998). As a result, data from a sufficient number of both individuals

and organizational units (e.g., departments) had to be obtained. Furthermore, it was imperative that it be possible to identify within which units to classify individual participants.

4. Because of the nature of the variables in the study, organizations may be hesitant about allowing documentation of such sensitive information. Certain information (such as stressor rates) could be viewed as legally threatening to the organization. Individual participants may also be apprehensive to respond honestly to certain questions if they suspect that their employer may be able to identify their survey responses. Consequently, the anonymity of participating employees and organizations was important.

5. Organizations were hesitant to take part in research that would require employees to participate during working hours. Excessive requirements (e.g., time or effort) associated with participation were also expected to reduce individuals' willingness to take part in the study. Consequently, it was important that the demands imposed on study participants be minimized to ensure a sufficient response rate.

Given the factors reviewed above, a cross sectional survey was deemed to be an appropriate choice (by both the experimenter and the participating organizations). Such an approach allowed for the systematic collection of information regarding a large number of variables from a large number of participants while minimizing requirements of participants. Furthermore, employees are often familiar with workplace surveys and were expected to be more apt to participate in survey research. Securing a large diverse sample would also help promote the external validity and generalizability of the results.

The sample for this study consisted of 96 participants belonging to 13 different organizations in the manufacturing sector. These organizations were represented by 3 different

union locals that also assisted with data collection efforts. Union local leaders believed that

social stressors were adversely affecting the well-being of employees of organizations

represented by the unions. Most of the participants in the study were male (75%), held no

supervisory responsibility (90.1%), were permanent full-time employees (92.1%), and listed their

ethnicity as "white" (83.3%). Employees' average tenure within their current organization was

15.6 years (SD = 8.7); their average tenure within their current department was 9 years (SD =

7.3). Table 5 presents a more detailed description of the employee sample.

TABLE 5

Study Two: Description of Participant Sample

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<u>Age</u>
20-29 = 3.1%
30-39 = 21.9%
40-49 = 42.7%
50-59 = 30.2%
60+ = 2.1%

<u>Ethnicity</u>
Asian = 5.2%
Black = 6.3%
East Indian = 2.1%
Middle Eastern = 1.0%
White = 83.3%
Other = 2.1%

<u>Education</u>
Did no complete high-school = 18.8%
High school diploma or equivalent = 46.9%
Two-year college degree or equivalent = 30.2%
Bachelor's degree or equivalent = 4.2%
Master's degree or equivalent = 0%
Doctoral degree or equivalent = 0%

<u>Supervisory responsibility</u>
No supervisory responsibility = 90.9%
First line supervisor/team leader = 6.8%
Manager = 2.3%
Executive = 0%

<u>Employment status</u>
Permanent, part-time = 4.5%
Permanent, full-time = 92.1%
Temporary, part-time = 1.1%
Temporary, full-time = 2.2%

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Participants were asked to respond to a survey of their workplace experiences and attitudes (available both online and in hardcopy) that took approximately 30 minutes to complete. The survey is presented in Appendix C[2]. The online version does not appear in this document as it is identical in content to the survey presented (it differed only in format). Recruitment posters describing the survey and how to participate were placed in common areas of participating organizations by union officials. A copy of the recruitment poster is presented in Appendix D. Participating unions further aided in data collection efforts by informing employees of the survey in quarterly union meetings and newsletters, distributing surveys during meetings and within their respective organizations, and by posting a link to the online survey on the front page of their union local websites. As an incentive for participation, the researchers agreed to donate $1 toward every completed survey to the charity of choice of the union locals.

Research propositions to be tested in the present study involved variables at the individual and unit level of analysis. Several options were considered in identifying an appropriate level at which to operationalize the unit level. Discussions with union local leaders in part helped guide the identification of an appropriate level of analysis for second-level units. One option was the organizational-level. This option was considered unfavourable for at least two reasons. First, because data from only 13 organizations was obtained, this would severely constrain the ability to identify associations involving variables considered at the unit-level of analysis. Second, within-unit consistency and between-unit variance in self-reports is necessary in order to aggregate variables to be considered at the unit-level of analysis. Discussions with union leaders suggested that there existed important differences in employee conditions and experiences within organizations. The work-group level of analysis, as used in the first study,

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[2] The names of participating organizations and the specific CAW union locals that represent them have been blacked-out from the survey and other materials presented in appendices in order to protect their anonymity.

was another option. Although this would provide a much larger number of second-level units, this was also an unfavourable option because of difficulties in (1) identifying which unit individual employees belong to without compromising their anonymity and (2) obtaining a sufficient number of respondents from each unit. A third option was the departmental level of analysis. Departments were considered an appropriate level given that, according to union officials, experiences and conditions are similar within departments and variable across departments. This level of analysis would provide greater power to identify unit-level associations than the organizational-level while making it easier to obtain a sufficient number of responses from employees within a given unit. This also made it straightforward to categorize participants into units without compromising their anonymity. Participants were therefore considered to belong to the same unit when they worked in the same department (as reported in the survey). This resulted in 27 second-level (i.e., departmental) units with an additional unit composed of three participants for which no identifiable unit information was provided (removal of this unit from statistical analyses did not change results in any meaningful way). Within-unit sample sizes varied from two to eight. Statistical analyses conducted to validate the appropriateness of this grouping structure, as conducted for the first study, appear later in this manuscript.

Common method bias

Common method variance and response biases are often a concern associated with collecting data of multiple constructs from a single respondent at one point in time, as was the case for the present study. Consequently, several techniques (both procedural and statistical) were taken to minimize potential biases.

Participants were specifically told that their responses are completely anonymous, that there are no right or wrong answers and that they should respond as honestly as possible. Surveys did not ask respondents to indicate their names or to provide other information that might identify them. There was no way for the researcher, respondents' employing organizations, or union locals to identify whether or not an individual participated, and if they did, what responses they provided. All data was sent directly to the primary researcher. These procedures were expected to reduce participants' evaluation apprehension and decrease the likelihood that they would alter their responses "to be more socially desirable, lenient, acquiescent, and consistent with how they think the researcher wants them to respond" (Podsakoff et al., 2003). Care was also taken to avoid indicating through any of the study materials the specific focus or hypotheses of the research. Surveys were said to concern employees' workplace experiences and attitudes. No mention of stress was made in study materials to avoid possible priming of stressor or strain responses (Moss & Lawrence, 1997).

Special care was also taken in the design of the survey to minimize response biases. A neutrally and factually worded stressor measure was used to minimize common method bias and decrease confounding by reducing the influence of cognitive and emotional processes (Fitzgerald & Shullman, 1993; Frese & Zapf, 1988). Given an appropriate stressor measure could not be identified in the academic literature, a measure was developed and validated for the present investigation. As is more fully explained later in this document, this measure was developed to be as neutrally worded as possible and to avoid overlap with the proposed mediator. Additionally, separate sets of instructions and rating scales were provided for introducing various measures within the survey. This is thought to interrupt routinized responding and encourage respondents to pay closer attention to the questions that they are answering (Gardner, Cummings,

Dunham & Pierce, 1998). Furthermore, the measurement of predictors and outcomes were counterbalanced by developing two scale orders (Podsakoff et al., 2003). In one case predictors were assessed prior to outcomes in the survey, in the other case outcomes were assessed prior to predictors. For both orders, measures of predictors and outcomes were separated by measures of proposed moderators to further minimize response-priming or item-context effects. Specifically, the first scale order was as follows: demographic information part a; interpersonal workplace events; interpersonal workplace norms; negative affectivity; interpersonal justice; social support; interpersonal control; turnover intentions, job satisfaction, affective commitment, and interpersonal workplace values; mental health; demographic information part b. The second scale order was as follows: demographic information part a; turnover intentions, job satisfaction, affective commitment, and interpersonal workplace values; mental health; interpersonal justice; social support; interpersonal control; interpersonal workplace events; interpersonal workplace norms; negative affectivity; demographic information part b.

The current study's research propositions also helped to protect against making faulty inferences. A bivariate association, for example the association between stressors and strains, is open to many possible interpretations. For example, the observed association may be the result of stressors causing strains, strains causing stressors, or a third variable causing both resulting in a spurious relation between stressors and strains. Testing more complex associations between variables helped reduce the number of possible alternate interpretations. As previously mentioned, correlated residuals (which would occur given common method variance or third variable causation) do not contribute to spurious interaction effects (Evans, 1985). Consequently, interaction effects are subject to fewer interpretive issues. Additionally, the presence of a mediating variable facilitates causal interpretation from passive observation (i.e.,

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interpretation of cross-sectional relations) by providing patterns of interrelations that may be

scrutinized for consistency with posited relations between variables (Cook & Campbell, 1979).

Furthermore, the use of group-level predictors also affords greater protection against common

method bias. Finally, the effects of demographic variables (e.g., age, gender, education, race)

were controlled in analyses in order to help rule out the possibility of third variable explanations.

Negative affectivity, which has been said to spuriously inflate associations in stress research,

also figured in study analyses thereby acting as a covariate.

Measures

A list of measures appears in Appendix E. Where possible, only validated and widely-

used measures were selected.

Interpersonal workplace events. Although the various measures of social stressors

available in the academic literature all reflect potentially harmful (physically, mentally, or

otherwise) interpersonal interactions, they differ in several respects. A review of construct

definitions in Appendix A reveals that such variables differ along several lines. For example,

some take the perspective of the target, others of the perpetrator. Some specify intent on the part

of the perpetrator, others specify the balance of power between target and perpetrator. Some

make stipulations regarding frequency or duration and consequences to targets. Some imply a

specific interpretation or experience of acts by the target (e.g., the acts must be perceived as

unwanted) and so forth. Despite conceptual differences in construct definitions, inspection of

associated measures of these constructs reveals that operationally they are much less distinct

given they assess many of the same behaviours (Keashly & Harvey, 2005; Keashly & Jagatic,

2002). In further support of the equivalence of such measures, a recent meta-analysis (Lapierre,

Spector, & Leck, 2005) pointed to a distinction only between sexual and non-sexual experiences,

which have traditionally been treated separately in the literature. Other researchers also agree that labels such as presented in Appendix A used to describe interpersonal workplace events refer to the same overall construct (Bowling & Beehr, 2006).

For the purposes of the present investigation, a measure that conforms to Pratt and Barling's (1988) occupational stress framework was required. In other words, a measure of a broad range of potentially harmful interpersonal workplace interactions that conforms as closely as possible to the conception of stressors as objective environmental events. Given the use of a self-report measure, items of such a measure should be as neutrally worded, non-judgmental and non-emotive in nature as possible, and should be worded to minimize any interpretation, labelling, or psychological experience of the behaviours in question.

Unfortunately, we were unable to identify an existing measure from the academic literature that conformed to all of the present study's requirements. Although various measures contain useful items, many also contain items that include interpretation or labelling of the interactions (and items overlapping with our proposed mediator). Thus, a measure tailored to requirements of the present investigation was developed. The first step in the development of this measure was the identification of measures available in the academic literature of constructs such as listed in Appendix A. Measures of eight constructs were identified (see list at bottom of Figures 2, 3, or 4). Items from these measures were listed; redundant items and those pertaining to sexual behaviours were deleted. The remaining items were scrutinized to ensure they were appropriate. Items had to describe an objective event and be as devoid as possible of subjective interpretation, experience or labelling of the event described. The primary investigator reviewed each item separately, asking the following questions: Is the individual's subjective experience of the event implied in the wording of the item? Does the wording of the item imply that the event

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was perceived as aversive or otherwise negative? Does the wording of the item imply that the

event was perceived as disrespectful, discourteous, or unfair? Does the wording of the item

otherwise imply how the event was perceived, interpreted, or experienced psychologically? If he

could answer yes to any of these questions, the item was either modified to make it more

objectively worded or, if this was not possible, it was rejected. This initial list of items was then

reviewed by another investigator (the present author's thesis supervisor) who reviewed each item

as just described. Disagreements between investigators regarding items were discussed until

consensus was reached. This left a list of 32 interpersonal workplace event items. See

"Interpersonal Workplace Events Scale" (IWES) in Appendix E. Higher scores on this scale

indicate greater exposure to such interpersonal behaviours at work.

In order to further validate the IWES, a study was conducted that compared IWES scale

items to those of the other eight scales. All items from the IWES along with a random sample of

approximately half the number of items from the other measures were administered to a group of

five graduate students from the Industrial-Organizational Psychology Program at the University

of Waterloo. Participants were asked to read each item carefully, make the three judgments

about the item, and then move on to the next item. The three judgments were: (1) "To what

extent does the wording of the item imply how the event was interpreted or experienced by the

target?"; (2) "To what extent does the wording of the item imply that the event was perceived by

the target as being unpleasant or otherwise aversive?"; (3) "To what extent does the wording of

the item imply that the event was perceived by the target as being disrespectful, mean,

insensitive, or unfair?" Participants rated each item along these dimensions using a 5-point

rating scale ranging from "Not at all or to a very small extent" to "To a very great extent." The

complete study design (data collection instruments) is presented in Appendix F.

As seen in Figures 2, 3, and 4, participants seemed to rate items from the newly developed IWES lower (on average) than items from all other scales on all three judgment dimensions. The statistical procedure used to determine whether such differences were reliable is described next.

Figure 2: Mean ratings of measures of interpersonal workplace behaviours for the extent of interpretation implied by their item wordings (judgment 1)

Note. Error bars represent the 95% confidence interval around the mean.

IWES: Interpersonal workplace events scale (developed for this research)
Abuse: Abusive events scale (Keashly, Trott & MacLean, 1994)
AS: Abusive Supervision (Tepper, 2000)
AES: Aggressive experiences scale (Glomb, 2001, 2002)
Bullying: Bullying behaviours scale (Quine, 2001)
Harassment: Generalized workplace harassment scale (Rospenda & Richman, 2004)
Incivility: Workplace incivility scale (Cortina, Magley, Williams, & Langhout 2001)
NAQ: Negative acts questionnaire (Einarssen & Raknes, 1997; Hoel, Faragher, & Cooper, 2004; Saline, 2001)
Violence: Violence at work scale (Roger & Kelloway, 1997)

Figure 3: Mean ratings of measures of interpersonal workplace behaviours for the extent of aversiveness implied by their item wordings (judgment 2)

Note. Error bars represent the 95% confidence interval around the mean.

IWES: Interpersonal workplace events scale (developed for this research)
Abuse: Abusive events scale (Keashly, Trott & MacLean, 1994)
AS: Abusive Supervision (Tepper, 2000)
AES: Aggressive experiences scale (Glomb, 2001, 2002)
Bullying: Bullying behaviours scale (Quine, 2001)
Harassment: Generalized workplace harassment scale (Rospenda & Richman, 2004)
Incivility: Workplace incivility scale (Cortina, Magley, Williams, & Langhout 2001)
NAQ: Negative acts questionnaire (Einarssen & Raknes, 1997; Hoel, Faragher, & Cooper, 2004; Saline, 2001)
Violence: Violence at work scale (Roger & Kelloway, 1997)

Figure 4: Mean ratings of measures of interpersonal workplace behaviours for the extent of disrespectfulness implied by their item wordings (judgment 3)
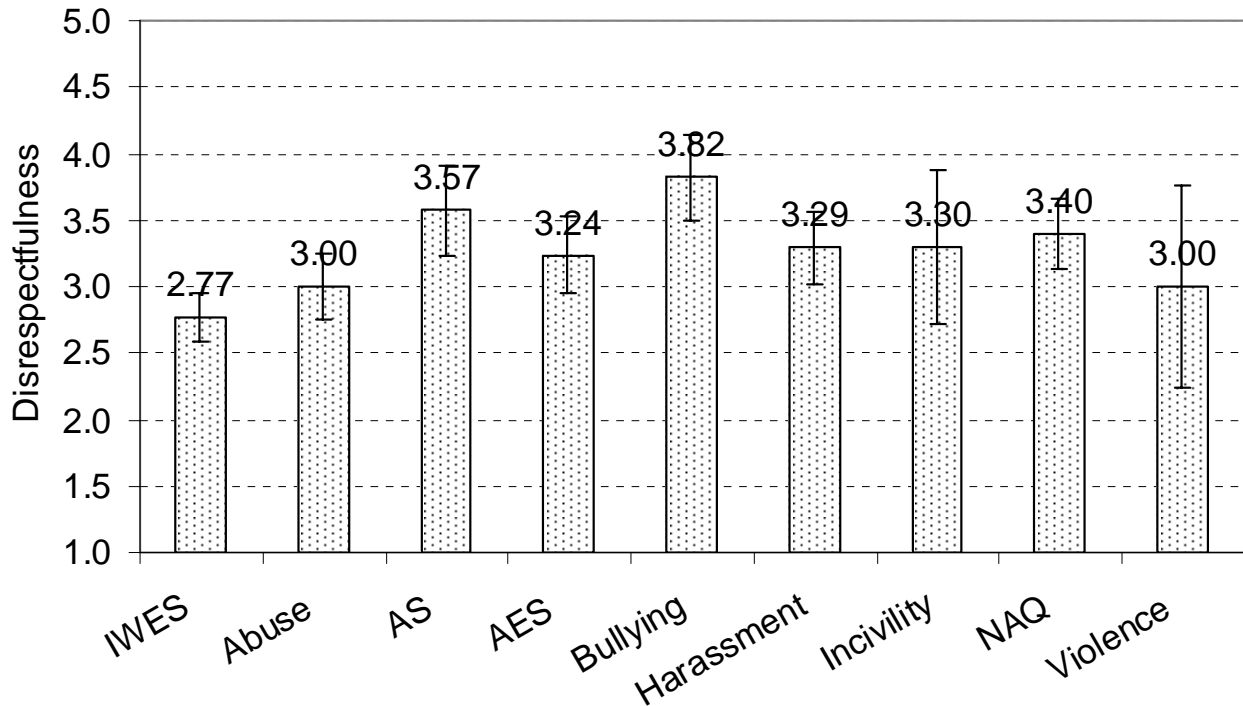
Note: Error bars represent the 95% confidence interval around the mean.

IWES: Interpersonal workplace events scale (developed for this research)
Abuse: Abusive events scale (Keashly, Trott & MacLean, 1994)
AS: Abusive Supervision (Tepper, 2000)
AES: Aggressive experiences scale (Glomb, 2001, 2002)
Bullying: Bullying behaviours scale (Quine, 2001)
Harassment: Generalized workplace harassment scale (Rospenda & Richman, 2004)
Incivility: Workplace incivility scale (Cortina, Magley, Williams, & Langhout 2001)
NAQ: Negative acts questionnaire (Einarssen & Raknes, 1997; Hoel, Faragher, & Cooper, 2004; Saline, 2001)
Violence: Violence at work scale (Roger & Kelloway, 1997)

In order to test whether observed scale differences were statistically significant, data were analyzed using multilevel modeling procedures.   The multilevel models tested contained two levels. Level-one corresponded to items, where the number of cases at this level (550) is equal to the number of items in the study (110) multiplied by the number of raters (5). Dummy codes were used to categorize level-one cases into their respective scales using the IWES as the comparison group. Level-two corresponded to raters; again there were five. Three models structured as just described where run, one for each outcome (i.e., judgment dimension). The two-level model just described is presented in equation format below.

Level-one Model:

$$Y_{ij} = \beta_{0j} + \beta_{2j}*D2_{ij} + \beta_{3j}*D3_{ij} + \beta_{4j}*D4_{ij} + \beta_{5j}*D5_{ij} + \beta_{6j}*D6_{ij} + \beta_{7j}*D7_{ij} + \beta_{8j}*D8_{ij} + \beta_{9j}*D9_{ij} + r_{ij}$$

Level-two Model:

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

$$\beta_{6j} = \gamma_{60}$$

$$\beta_{7j} = \gamma_{70}$$

$$\beta_{8j} = \gamma_{80}$$

$$\beta_{9j} = \gamma_{90}$$

Where:

Y_{ij} = outcome variable (for judgment 1, 2, or 3)

$D2_{ij}$ = vector coding Abusive events scale (Keashly, Trott & MacLean, 1994)

$D3_{ij}$ = vector coding Abusive supervision scale (Tepper, 2000)

$D4_{ij}$ = vector coding Aggressive experiences scale (Glomb, 2002)

$D5_{ij}$ = vector coding Bullying behaviours scale (Quine, 2001)

$D6_{ij}$ = vector coding Generalized workplace harassment scale (Rospenda & Richman, 2004)

$D7_{ij}$ = vector coding Workplace incivility scale (Cortina, Magley, Williams, & Langhout 2001)

$D8_{ij}$ = vector coding Negative acts questionnaire (Einarssen & Raknes, 1997

$D9_{ij}$ = vector coding Violence at work scale (Roger & Kelloway, 1997)

γ_{00} = mean on outcome for comparison group (IWES)

γ_{20} = increment over IWES for Abusive events scale

γ_{30} = increment over IWES for Abusive supervision scale

γ_{40} = increment over IWES for Aggressive experiences scale

γ_{50} = increment over IWES for Bullying behaviours scale

γ_{60} = increment over IWES for Generalized workplace harassment scale

γ_{70} = increment over IWES for Workplace incivility scale

γ_{80} = increment over IWES for Negative acts questionnaire

γ_{80} = increment over IWES for Violence at work scale

u_{0j} = Level-two random effect term associated with β_{0j}

Results of multilevel analyses are presented in Tables 6, 7, and 8. In these analyses, the intercept term (γ_{00}) represents the mean on the outcome variable for the comparison group (IWES). A random effect term (u_{0j}) associated with the comparison group was included to account for the possibility that participants respond on different scale ranges (i.e., to allow for potential rater effects). Other significant gamma parameters (other than for γ_{00}) indicate the increment on the associated scale over the mean for the IWES (over γ_{00}). The models as just

described, and as presented in equation format above, were compared for fit to models that included random effect terms for all other gamma parameters. To allow for model comparisons, full maximum likelihood estimation was used in all analyses (Raudenbush & Bryk, 2002).

As seen in the last column to the right in Table 6, seven out of eight of the gamma parameters were statistically significant and positive. Thus, participants rated items from all scales, except the Violence at Work scale (Roger & Kelloway, 1997), as implying significantly more interpretation than the IWES. The deviance statistic associated with a multilevel model may be viewed as a measure of model fit wherein the higher the deviance, the poorer the fit (Raudenbush & Bryk, 2002). The deviance of this model (which estimated 11 parameters) was 1623.26. Deviance for the same model but with all level-two random effect terms (u_{0j}) was 1584.79. In this second model 55 parameters were estimated. The difference in deviances is a Chi-square statistic, with associated degrees of freedom equal to the difference in the number of parameters estimated (Raudenbush & Bryk, 2002). The difference in the above deviance values was not statistically significant ($\chi^2 = 38.46$, $p > .05$). Consequently, results for the more parsimonious model are presented.

A similar pattern of findings was seen in Table 7. Again all gamma parameters reached statistical significance except for γ_{09}. However, in contrast to above, γ_{20} only reached marginal levels of statistical significance. Thus, participants rated items from all scales, except the Violence at Work scale (Roger & Kelloway, 1997), as implying significantly more aversiveness than the IWES. Again, the more parsimonious model with only one level-two random effect term showed no better fit then the model with all random effect terms ($\chi^2 = 9.67$, $p > .05$).

As seen in Table 8, all gamma parameters reached statistical significance except for γ_{09} and γ_{20}. Thus, participants rated items from all scales, except the Violence at Work scale (Roger

& Kelloway, 1997) and the Abusive events scale (Keashly, Trott & MacLean, 1994), as implying significantly more disrespect than the IWES. Here, the more parsimonious model with only one level-two random effect term also showed no better fit then the model with all random effect terms ($\chi^2 = 24.14$, p > .05).

The results of these analyses support the appropriateness of the IWES for the present study. Although results did not point to the IWES implying lower judgments than the Violence at Work scale (Roger & Kelloway, 1997), these findings may be a result of the higher variability in responses associated with this latter scale. This increased variability may be attributable to the small number of items used to represent this scale. The total scale includes only five items; only two of those items were selected at random for this study. These considerations aside, the IWES is considered more appropriate for the present study given that it samples a much broader range of negative interpersonal behaviours than the Violence at Work scale (which measures physical and verbal violence only). For this reason, the IWES was used.

TABLE 6

Parameter Estimates for Fixed Effects of the Multilevel Model for Judgment 1

Predictor	Parameter Name	Parameter Estimate
Intercept	γ_{00}	2.23***
D2 (effect for Abuse)	γ_{20}	0.43**
D3 (effect for AS)	γ_{30}	0.52**
D4 (effect for AES)	γ_{04}	0.72***
D5 (effect for Bullying)	γ_{05}	1.06***
D6 (effect for Harassment)	γ_{06}	0.80***
D7 (effect for Incivility)	γ_{07}	1.23***
D8 (effect for NAQ)	γ_{08}	0.82***
D9 (effect for Violence at work)	γ_{09}	0.18

Note: The level-two equation included the statistically significant random parameter u_0 ($\chi^2 =$ 54.02, p < .001). N = 550 items, 5 raters.

*** p < .001   ** p < .01

TABLE 7

Parameter Estimates for Fixed Effects of the
Multilevel Model for Judgment 2

Predictor	Parameter Name	Parameter Estimate
Intercept (grand mean)	γ_{00}	2.60***
D2 (effect for Abuse)	γ_{20}	0.25†
D3 (effect for AS)	γ_{30}	0.71***
D4 (effect for AES)	γ_{04}	0.54***
D5 (effect for Bullying)	γ_{05}	0.77***
D6 (effect for Harassment)	γ_{06}	0.42**
D7 (effect for Incivility)	γ_{07}	0.74**
D8 (effect for NAQ)	γ_{08}	0.62***
D9 (effect for Violence at work)	γ_{09}	0.39

Note: The level-two equation included the statistically significant random parameters u_0 ($\chi^2 = 68.79$, p < .001). N = 550 items, 5 raters.

† p < .10   ** p < .01   *** p < .001

TABLE 8

Parameter Estimates for Fixed Effects of the
Multilevel Model for Judgment 3

Predictor	Parameter Name	Parameter Estimate
Intercept (grand mean)	γ_{00}	2.77***
D2 (effect for Abuse)	γ_{20}	0.23
D3 (effect for AS)	γ_{30}	0.80***
D4 (effect for AES)	γ_{04}	0.47**
D5 (effect for Bullying)	γ_{05}	1.05***
D6 (effect for Harassment)	γ_{06}	0.52***
D7 (effect for Incivility)	γ_{07}	0.53*
D8 (effect for NAQ)	γ_{08}	0.63***
D9 (effect for Violence at work)	γ_{09}	0.23

Note: The level-two equation included the statistically significant random parameters u_0 ($\chi^2 =$ 54.02, p < .001). N = 550 items, 5 raters.

* p < .05   ** p < .01   *** p < .001

Interpersonal injustice. Items from the interpersonal justice dimension of the four-dimensional organizational justice scale developed and validated by Colquitt (2001), as well as items from Heuer and colleagues' (1999) measure of respect were used. These four-item scales shared three common items. Additional items reflective of conceptualizations of the interpersonal justice construct were also added (Niehoff & Moorman, 1993). See the "Interpersonal Injustice" scale in Appendix E. This scale was scored such that higher scores represented higher levels of perceived injustice.

Interpersonal workplace norms. An appropriate measure of interpersonal workplace norms could not be identified in the academic literature. Thus, a measure assessing norms surrounding the acceptability and tolerance of engaging in negative interpersonal acts at work—considered in a general sense—was developed for this study. This measure was partly adapted from a measure of organizational tolerance for sexual harassment (Dekker & Barling, 1998). See "Interpersonal Workplace Norms Scale" in Appendix E. In the present investigation individual responses on this variable were aggregated to create an indicator of the extent of acceptability and tolerance for negative behaviours within departments. Analyses supporting the appropriateness of this aggregation are presented later. Higher scores on this scale indicate greater perceived acceptability and tolerance for negative interpersonal behaviour at work within one's department.

Interpersonal workplace values. An appropriate measure of interpersonal workplace values could not be identified in the academic literature. Thus, a scale was developed for the present study. Consistent with Locke and Taylor's (1990) "social relationship" values and with writings of Maslow (1954) and Adelfer (1969) regarding belonging and relatedness needs, this scale was designed to assess the importance placed on the workplace meeting one's needs for

positive or rewarding social relationships. A number of items were developed by the present author and subsequently adjusted or deleted following a reviews with the faculty supervisor for this research. See "Interpersonal Workplace Values Scale" in Appendix E. Higher scores on this scale indicate greater importance placed on positive or rewarding social relationships at work.

Social support. Social support was measured using the scale developed by Caplan, Cobb, French, Van Harrison, and Pinneau (1980). This scale is one of the most widely used measures of social support on the job (Viswesvaran, Sanchez, & Fisher, 1999). It assesses the extent to which an employee perceives both emotional and instrumental support is available from their immediate supervisor; other people at work; and their wife/husband, friends and relatives. An additional subscale that assessed perceived support from union representatives was also included due to interest from participating union locals. Emotional support was assessed by two items, how easy it is to talk to the above groups of people, and how willing they are to listen to one's personal problems. Instrumental support was also assessed by two items, how much the above groups of people go out of their way to do things to make one's work life easier and how much they can be relied on when things get tough at work. See "Social Support Scale" in Appendix E.

Consistent with past research, scores on the supervisor and co-workers support subscales were combined (Lim, 1996) to form measures of (1) emotional work-based support and (2) instrumental work-based support. Social support, like the norms variable, was also considered at the departmental level of analysis. Analyses supporting the appropriateness of this aggregation are presented later. Higher scores on the support scales reflect higher perceived support within departments.

Interpersonal control. This construct was meant to capture feelings of agency in handling potentially stressful social interactions at work. The nine-item interpersonal control scale of Paulhus and Christie's (1981) spheres of control measure was used. This scale assesses an individual's sense of agency in interactions with others. Two additional items more specifically referencing negative interpersonal workplace interactions developed based on conceptualizations of the self-efficacy construct (e.g., Bandura, 1997) were added to this scale. Two items from the original scale deemed inappropriate for the present context were removed. See "Interpersonal Control Scale" in Appendix E. Higher scores on this scale represent greater perceived agency in interpersonal contexts.

Negative affectivity. The negative affectivity dimension of the Positive and Negative Affectivity Schedule (PANAS; Watson, Clark & Tellegen, 1988) was used to assess trait negative affectivity. This scale, presented in Appendix E, asks respondents to indicate the extent to which they generally feel scared, upset, nervous, guilty, hostile, afraid, distressed, jittery, ashamed, and irritable. Higher scores represent greater negative affectivity.

Strain Composite. As previously mentioned, the occupational stress literature has conceptualized strain very broadly having investigated a wide range of negative consequences resulting from exposure to stressors. Consistent with this, a measure of strain that represents a broad spectrum of negative psychological employee-related consequences was desired. Four of the most commonly used psychological strain indicators were assessed for this study. Measures of these four psychological strain indicators were combined to obtain a more general strain composite (i.e., measures of job-satisfaction, organizational commitment, turnover intentions, and mental health as discussed next). Because the measures varied widely in terms of the number of items they each possessed, rather than averaging items from all four scales together,

scale-scores were formed and then combined using a principal-component-derived weighing procedure (i.e., scale scores were weighed by principal component weights and summed). This ensured that each variable's contribution to the strain composite would not be determined by the number of items it possesses. Using a strain composite derived using a unit-weighing procedure did not change study findings in any meaningful way. The four outcome measures used in the strain composite appear in Appendix E. Higher scores on the strain composite represent higher self-reported strain. The four measures combined to form a single indicator of strain are as follows:

Job satisfaction. Overall job satisfaction was measured with the five-item Brayfield and Rothe (1951) scale. Item were coded such that higher scores on these items represent lower job satisfaction (increased strain).

Organizational commitment. Organizational commitment was measured using the eight items that compose Allen and Meyer's (1990) Affective Commitment Scale. Allen and Meyer (1990) define affective commitment as: "an affective or emotional attachment to the organization such that the individual identifies with, is involved in, and enjoys membership in the organization (p 2)." Items were coded such that higher scores on these items represent lower affective commitment.

Turnover intentions. Turn-over intentions were measured using the following items: "Within the past year I have often thought about quitting my job; I have seriously considered leaving my current employer during the past year". Item were coded such that higher scores on these items represent higher turnover intentions.

Mental health. Mental health was measured by the 12-item version of the General Health Questionnaire (Goldberg 1972; McDowell, & Newell, 1996) presented in Appendix E. The GHQ

is used to detect subclinical levels of psychiatric disturbances. Item were coded such that higher scores on these items represent poorer mental health.

A number of reasons made it preferable in the present context to consider outcome variables as a composite rather than as individual indicators of strain. The focus of the present investigation was to identify why and when negative interpersonal workplace interactions lead to negative consequences for employee well-being (considered in a general sense); the identification and explanation of differences in associations for specific measures or manifestations of well-being was not. Unreported analyses treating the above mentioned psychological strain indicators separately rather than as a single composite failed to reveal important differences in findings. Rather, findings across the different outcomes tended to converge with those obtained for the composite but were generally more muddled than those for the composite. These observations are consistent with findings from other unrelated literatures. For example, studies comparing attitude-behaviour linkages have shown that composite criterion scores have higher predictability; and this enhanced predictability is thought to results from composites being less contaminated by specific factors and measurement error (Ones & Viswesvaran, 1996). The use of a strain composite was therefore not only consistent with the main goal of this research, but it also facilitated the interpretation of results. Furthermore, consistent with suggestions that predictors should match criteria in terms of specificity, given the present use of a broad stressor variable (a measure assessing a wide variety of negative interpersonal workplace behaviours), the use of a broad outcome variable was also justified (Ones & Viswesvaran, 1996). From a pragmatic standpoint the use of a strain composite was therefore desirable. However, one may ask whether these variables can sensibly be represented by an overarching construct.

Both conceptual and empirical arguments supported the reasonableness of forming and utilizing a composite variable based on the outcome measures presented. These variables represent a range of key psychological strain indicators considered in the occupational stress literature. Reviews of occupational stress research have also categorized such variables as being conceptually distinct from other potential outcomes pertaining, for example, to physiological and behaviour strain (Cooper, Dewe, & O'Driscoll, 2001). Therefore, there is precedent for thinking of the variables studied as being conceptually related to one another but distinct from other strain indicators. Conceptually, the strain indicators studied all represent negative psychological employee-related consequences known to be associated with workplace stressors, and are all about experiencing time at work as negative. In this sense such variables clearly share conceptual unity. Empirical evidence also supported our decision to combine these individual indicators.

The strain composite demonstrated a great deal of internal consistency and correlations among indicators were all positive as expected. Reliability of the weighted strain composite, as estimated using Mosier's (1943) formula, was .93. Furthermore, a principal components analysis of scale scores of the four strain indicators revealed a single factor with an Eigenvalue over one that accounted for 54% of the variance in the data. These findings further support the existence of a broader psychological strain-related construct. Findings in the component matrix are presented in Table 9. Component weights seen in this table were used to derive a single strain indicator. Therefore, there existed a pragmatic, conceptual, and empirical support for our use of the strain composite.

It should be noted that although we combined scales to form a single strain indicator, we are not suggesting that the different outcome variables are indistinguishable nor are we

suggesting that it is meaningless to differentiate between such variables. However, we do wish

to highlight that it is both meaningful and useful to conceptualize strain as a general construct

within the present study based on the reasoning presented above.

TABLE 9

Study Two: Principal Component Loadings of Strain Variable Scale Scores

Strain variable	Component weight
Job satisfaction (reverse scored)	.818
Organizational commitment (reverse scored)	.849
Turn-over intentions	.698
Mental health	.526

Note. $N = 96$. Items from the Mental health scale were measured on a 5-point scale, items for all other scales were measured on 7-point scales.

Data-Analytic Approach

The present study's propositions—summarized in Table 4 on page 57—were tested using multilevel modeling techniques (Raudenbush & Bryk, 2002). Multilevel modeling is a useful tool for analyzing nested data (i.e., data at different hierarchical levels of analyses). In the present study, two levels were being investigated. Level-one units represent individuals nested within level-two units which represent organizational departments. Multilevel modeling has several advantages over traditional analysis approaches for such data. Several of these benefits were highlighted in Study One. For example, such techniques are very good at handling unequal or small within-unit sample sizes, they can be used to simultaneously examine the effects of unit level variables (such as organizational norms and social support) and individual level variables (such as interpersonal workplace experiences and NA), and they take account of and correct for biases resulting from non-independence of observations that is typical in nested data (Raudenbush & Bryk, 2002). Furthermore, they allow testing of propositions ill-suited to using other methods. For example, it is possible to use multilevel modeling to test for cross-level moderation (i.e. when the relation between two individual level variables is moderated by a group-level variable) as well as three way interactions involving individual and group level moderators as in the present study.

In the present context, the first study hypothesis that interpersonal justice perceptions mediate the association between negative interpersonal workplace events and employee consequences is a lower level mediation hypothesis (Krull & MacKinnon, 2001). Here all variables are at the individual level of analysis, but the test of mediation is allowed to vary across level-two units (i.e., departments). The Baron and Kenny (1986) procedure as elaborated on by Kenny, Korchmaros, and Bolger (2003) for the estimation of lower-level mediation in multilevel

models was used to test the first hypothesis. Using this procedure, a first model estimating the unmediated path from the predictor to the outcome, path c, is tested. Next, a model estimating the path from the predictor to the mediator, path a, is tested. Then, a last model estimating the path from the mediator to the outcome, path b, and the path from the predictor to the outcome with the mediator in the model, path c', is tested. Next, the path between the predictor to the outcome with the mediator in the model, path c', is tested to determine whether it is significantly reduced compared to the path between the predictor to the outcome without the mediator in the model, path c. The Sobel (1982) test is used to test the null hypothesis that the reduction of the effect, the difference between c and c', is zero. A significant Sobel statistic thus provides support for mediation. An additional step of estimating the covariance between a and b is necessary for determining the amount of mediation in models where both paths a and b vary across second level units—in this case departments (Kenny, Korchmaros, & Bolger, 2003). The specific models used to test Hypothesis 1 appear later in this document under the results section.

The next set of study hypotheses (Hypothesis 2 through 8) involves moderators of the mediation paths. Specifically, individual and group-level moderators of the path between the predictor and the mediator (path a), and the mediator and the outcome were forwarded (path b). The proposition that a group-level variable moderates the association between two individual level variables is a cross-level interaction hypothesis (Klein, Dansereau, & Hall, 1994). Again multilevel modeling techniques are particularly appropriate for testing such hypotheses. Two separate multilevel models were estimated to test moderators of the two mediation paths being considered, one for each path. These models are also presented under the results section.

Analyses involved three variables considered at the group-level of analysis. Namely, individual scores on the interpersonal workplace norms, emotional work-based support (EWS),

and instrumental work-based support (IWS) variables were aggregated to form departmental indicators. Prior to aggregating individual-level responses to a higher level of analysis, it is necessary to establish agreement among group members (Bliese, 2000). Intraclass correlation coefficient (ICC) values for the variables in question were estimated to establish whether aggregation at the departmental level was appropriate. This was accomplished by estimating fully unconditional models—one for each group-level variable—as previously outlined in Study One (see equations 4 and 5).

The second-level random effect term (u_{0j}) indicating the amount of variability across units in level-two means was statistically significant for interpersonal workplace norms ($\chi^2 = 45.23$, p < .05), EWS ($\chi^2 = 65.21$, p < .001), and IWS ($\chi^2 = 78.68$, p < .001). These findings indicate that departments significantly varied in terms of their mean levels of tolerance for negative behaviours (as measured by the interpersonal norms variable) and average extent of emotional and instrumental work-based support they provide (as measured by EWS and IWS respectively). Furthermore, the ICC value obtained for the interpersonal norms variable was .177 indicating that 17.7% of the variability in employee responses on this variable can be modeled by group membership alone. The ICC value obtained for EWS was .317, and for IWS was .397. These ICC values are consistent with those obtained in prior research (Bliese & Halverson, 1996). These findings established the appropriateness of defining units at the departmental level of analysis and support the aggregation procedure.

Results

Scale Characteristics

Table 10 presents the means, standard deviations, reliabilities, and intercorrelations of the current study's variables. All variables treated at the individual level of analysis in the presents study's main analyses reached Cronbach alpha values between .80 and .96 except for the interpersonal values scale which obtained a less than ideal alpha value of .69. Although internal consistency values for the two social support variables and the interpersonal norms variable are provided, their ICC values are of more relevance given that these variables are treated at the unit level of analysis in the main analyses. As just reported, ICC values for these unit-level variables were satisfactory.

TABLE 10

Study Two: Variable Means, Standard Deviations, Reliabilities, and Intercorrelations

Variables	Mean	SD	Correlations								
			1.	2.	3.	4.	5.	6.	7.	8.	9.
1. IWES	2.22	1.03	(.96)								
2. Injust	2.74	.79	.57	(.86)							
3. Strain	9.89	2.90	.30	.47	(.93)						
4. Norms	3.56	1.28	.51	.52	.38	(.83)					
5. Values	5.57	.82	.06	-.05	-.32	-.23	(.69)				
6. NA	1.64	.64	.62	.50	.40	.41	-.04	(.89)			
7. EWS	2.69	.64	-.26	-.51	-.21	-.32	.00	-.19	(.65)		
8. IWS	2.82	.70	-.33	-.52	-.35	-.45	.05	-.25	.71	(.64)	
9. Control	5.17	.90	.21	-.02	-.12	.03	.19	-.10	-.01	.19	(.80)

Note. $N = 96$. Cronbach alpha reliabilities appear along the diagonal in parentheses. Correlations appear in the lower diagonal.

SD = standard deviation; IWES = interpersonal workplace events scales; Injust = interpersonal injustice; Norms = interpersonal workplace norms; Values = interpersonal workplace values; NA = negative affectivity; EWS = emotional work-based support; IWS = instrumental work-based support; Control = interpersonal control.

IWES: 9-point scale; Injust, NA: 5-point scales; EWS, IWS: 4-point scales; Norms, Values, Control: 7-point scales; Strain: principal component weighed composite of three 7-point scales and one 5-point scale.

Distinctiveness of Predictor and Mediator Variables

Conceptually, a distinction was made between the current study predictor (interpersonal workplace events) and mediator (interpersonal injustice) variables. Namely, it was argued that exposure to objective environmental events (in this case social stressors) is separate from how such events are psychologically experienced by individuals. This forms a basis for the argument that individual and contextual factors will act to moderate the relation between exposure to interpersonal events and the experience of such events as disrespectful or interpersonally unjust. However, this is not to say that the study predictor and mediator should be unrelated. In fact, as forwarded in the mediation hypothesis, it was proposed that exposure to social stressors causes strain because such events are experienced as disrespectful. For this to hold true the study predictor and mediator variables would necessarily need to be related. Still, for mediation findings to be meaningful, these variables should represent two separate constructs. We next consider evidence of the distinction between the study predictor and mediator.

As discussed earlier, items of the study stressor (predictor) variable were specifically developed in order to minimize the extent to which their wording implied the event in question was disrespectful. Evidence from a validation of this scale showed that its items do in fact imply less disrespectfulness that those of other measures from the literature.

In order to further demonstrate the distinctiveness between the predictor and mediator variable, a principal component analysis of their scale items was conducted. Findings in the pattern matrix after rotation by Promax revealed that all of the interpersonal injustice (mediator) items, except for the single negatively worded item from this scale, loaded onto their own separate factor (loadings ranged from .58 to .92). Items from the predictor scale did not load heavily onto this factor. The negatively worded item from the mediator variable formed an

independent factor on which no other items loaded strongly. The predictor variable, as would be

expected, proved to be more heterogeneous. Consequently, factor analytical evidence also

supports the distinction between the predictor and mediator variables.

As will be seen, while the study predictor (IWES) and mediator (Injust) variable were

correlated $r = .57$ (see Table 10), this did not prevent the detection of meaningful interaction

findings between these variables as presented later in this write-up. The interaction findings also

provide strong support for the distinctiveness between the predictor and mediator variables.

Mediation Findings

An important goal of the present study was to help explain why exposure to social stressors leads to detriments in employee well-being. The first study hypothesis posited that exposure to social stressors, specifically potentially negative interpersonal interactions, leads to the experience of strain when such events are perceived as disrespectful or interpersonally unjust. In other words, it was expected that the association between interpersonal workplace events and negative employee-related consequences (detriments to well-being) would be mediated by interpersonal injustice perceptions. Consistent with the approach outlined by Kenny, Korchmaros, and Bolger (2003), a first step for establishing mediation involved running three models that would estimate paths a, b, c, and c' as illustrated in Figure 5. Next, a Sobel test was used to determine whether there was a significant drop in c' compared to c. Finally, the amount of mediation was determined.

Figure 5: Study Two mediation hypothesis presented in model format
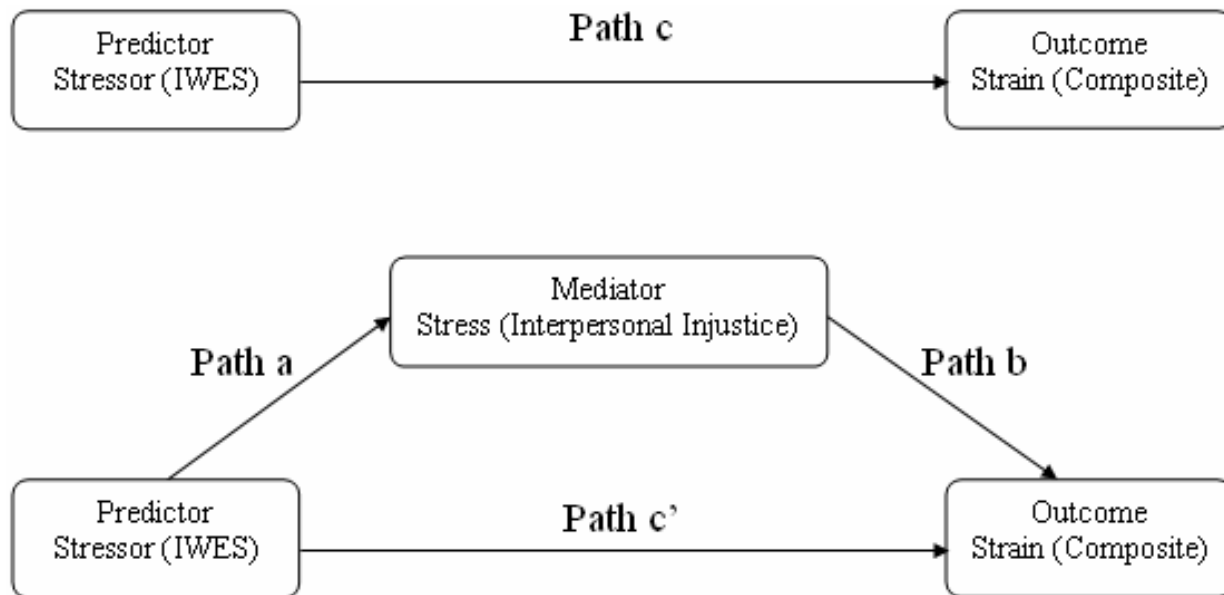
The first model estimated the unmediated path (path c) between the study's stressor (measured by the interpersonal workplace events scale—IWES) and strain (measured by the strain composite) variables. In this model the IWES scores are used as a predictor of strain composite scores. This model, illustrated in the first diagram in Figure 5, is presented in equation format below.

Level-one Model: $\quad Y_{ij} = \beta_{0j} + \beta_{1j}*X1_{ij} + r_{ij}$

Level-two Model: $\quad \beta_{0j} = \gamma_{00} + u_{0j}$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

Where:

Y_{ij} = outcome variable (strain composite)

$X1_{ij}$ = stressor variable (IWES)

r_{ij} = level-one random effect describing errors of prediction

γ_{00} = level-two intercept term

γ_{10} = level-two slope coefficient representing the unmediated effect of X1 on Y—path c

u_{0j} = level-two random effect term associated with β_{0j}

u_{1j} = level-two random effect term associated with β_{1j}

In the top of Table 11 under "fixed effects" for the strain outcome, we see that the level-two slope coefficient (γ_{10}) representing the unmediated path between the IWES and the strain composite (path c) was both positive and statistically significant ($\gamma_{10} = 1.060$, p = .01) thus fulfilling a first requirement for mediation. This finding indicates that employees experienced increasing levels of strain as their reports of the frequency with which they were exposed to the behaviours measured in the IWES increased.

TABLE 11

Study Two: Lower Level Mediation Models for the Strain Composite Outcome Variable

Outcome	Predictor	Fixed Effects				Random Effects			
		Parameter Estimate	(SE)	$t \, (df)$	P	Parameter	s^2	$\chi^2 \, (df)$	P
Strain									
	Intercept	$\gamma_{00} = 4.600$	0.312	14.730 (28)	<0.001	u_0	0.403	27.444 (27)	0.440
	IWES (path c)	$\gamma_{10} = 1.060$	0.381	2.782 (28)	0.010	u_1	1.421	37.258 (27)	0.090
Injust									
	Intercept	$\gamma_{00} = 2.761$	0.070	39.410 (28)	<0.001	u_0	0.007	30.606 (27)	0.287
	IWES (path a)	$\gamma_{10} = 0.487$	0.092	5.276 (28)	<0.001	u_1	0.102	49.322 (27)	0.006
Strain									
	Intercept	$\gamma_{00} = 4.560$	0.298	15.306 (28)	<0.001	u_0	0.526	16.686 (14)	0.273
	Injust (path b)	$\gamma_{10} = 1.550$	0.422	3.671 (28)	0.001	u_2	0.763	20.230 (14)	0.123
	IWES (path c')	$\gamma_{20} = 0.284$	0.373	0.760 (28)	0.453	u_1	0.857	14.289 (14)	0.429

Note. Trimming non-significant level-two random effect terms did not change findings in any appreciable way. IWES = interpersonal workplace events scales; Injust = interpersonal injustice. All predictor variables were grand mean centered in analyses.

The second model estimated the path from the stressor (IWES) to the study mediator (interpersonal injustice) or path a, as illustrated in the second diagram in Figure 5. In this model, the IWES scores are used as a predictor of interpersonal injustice perceptions. This model is presented in equation format below.

Level-one Model: $Y_{ij} = \beta_{0j} + \beta_{1j}*X1_{ij} + r_{ij}$

Level-two Model: $\beta_{0j} = \gamma_{00} + u_{0j}$

$\beta_{1j} = \gamma_{10} + u_{1j}$

Where:

Y_{ij} = = mediator variable (interpersonal injustice)

$X1_{ij}$ = stressor variable (IWES)

r_{ij} = level-one random effect describing errors of prediction

γ_{00} = level-two intercept term

γ_{10} = level-two slope coefficient representing the effect of X1 on Y—path a

u_{0j} = level-two random effect term associated with β_{0j}

u_{1j} = level-two random effect term associated with β_{1j}

In the middle of Table 11 under "fixed effects" for the "Injust" outcome, we see that the level-two slope coefficient (γ_{10}) representing the path between the IWES and the interpersonal injustice (path a) was positive and statistically significant ($\gamma_{10} = .487$, $p < .001$) thus fulfilling a next requirement for mediation. This finding indicates that as employees' reports of the frequency with which they experienced IWES-behaviours increased, their reports of the extent to which they were treated interpersonally unfairly (e.g., disrespectfully) at work also increased. Looking in the middle of this table again for the interpersonal injustice outcome but under "random effects," we also see that the level-two random effect term associated with path a (u_1)

was also statistically significant ($\chi^2 = 49.322$, $p < .001$). This indicates that the coefficient estimating path a was found to vary significantly across units (i.e., departments) suggesting that the association between exposure to IWES-behaviours and injustice perceptions varies as a function of a departmental characteristic. This variation was further explored during moderator analyses presented later in this document.

The third and final model for establishing mediation estimated the path from the mediator—interpersonal injustice—and strain (path b) and the path between the stressor—IWES—and strain (path c') with the mediator in the model. These paths are depicted in the second diagram in Figure 5. In this model, interpersonal injustice perceptions and IWES scores were used as predictors of strain composite scores. This model is presented in equation format below.

Level-one Model: $Y_{ij} = \beta_{0j} + \beta_{1j}*X1_{ij} + \beta_{2j}*X2_{ij} + r_{ij}$

Level-two Model: $\beta_{0j} = \gamma_{00} + u_{0j}$

$\beta_{1j} = \gamma_{10} + u_{1j}$

$\beta_{2j} = \gamma_{20} + u_{2j}$

Where:

Y_{ij} = strain composite

$X1_{ij}$ = mediator variable (interpersonal injustice)

$X2_{ij}$ = stressor variable (IWES)

r_{ij} = level-one random effect describing errors of prediction

γ_{00} = level-two intercept term

γ_{10} = level-two slope coefficient representing the effect of X2 on Y—path b

γ_{20} = level-two slope coefficient representing the effect of X1 on Y (controlling for X2)—path c'

u_{0j} = level-two random effect term associated with β_{0j}

u_{1j} = level-two random effect term associated with β_{1j}

u_{2j} = level-two random effect term associated with β_{2j}

At the bottom of Table 11 under "fixed effects" for the strain outcome variable, we see that the level-two slope coefficient representing the path between interpersonal injustice and strain (path b) was statistically significant (γ_{10} = 1.550, p = .001) fulfilling another requirement for mediation. This finding indicates that as employees' reports of the extent to which they were treated interpersonally unfairly (e.g., disrespectfully) at work increased, they reported increasing levels of strain. Again at the bottom of this table but under "random effects," we see that the level-two random effect term associated with path b (u_1) did not quite reach traditional levels of statistical significance (χ^2 = 20.230, p = 0.123). However, this should not preclude the possibility that the association between interpersonal injustice and strain varied as a function of a characteristic of the settings employees found themselves in; this is illustrated in later moderator analyses which provide greater power for identifying significant unit-level variation.[3]

Turing back to the "fixed effects" section at the bottom of Table 11, we also see that path c'—the path estimating the effect between the stressor variable (IWES) and strain when controlling for the mediator—was not statistically significant (γ_{10} = .284, p = .453). Thus, the previously established significant path c is seen to drop to zero when controlling for the mediator. The Sobel test (1982) determined that the drop between c and c' attributed to the mediator was statistically significant (Z = 3.01, p < 0.01) thus fulfilling the final requirement for

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[3] Although some multilevel analysts would require a significant random effect finding for path b prior to estimating the possible moderating effect of a unit-level variable, others would argue that this is not required because including a unit-level moderator is a more powerful test of possible variation between individual-level relations across units than a test with no unit-level variable in the model. When a unit-level variable is identified on the basis of sound theory, an a priori random effect finding without the unit-level variable in the model can thus be considered unnecessary (J. L. Michela, personal communication, 2006).

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establishing mediation. As previously noted, the covariance between paths a and b must be considered in models where both a and b vary across second level units when estimating the amount of mediation in a lower-level mediation model (Kenny, Korchmaros, & Bolger, 2003). Although the random effect term associated with path b did not quite reach statistical significance, a significant unit-level moderator finding presented later in this document demonstrated that this path did vary across second-level units as a function of a unit-level variable. Taking the covariance between a and b into account when estimating the amount of the effect of the stressor variable (IWES) on strain accounted for by the mediator (interpersonal injustice) suggested that full mediation occurred. This was consistent with the observation that path c dropped to zero with the mediator in the model. Not considering the covariance between paths a and b resulted in an estimate that 72% of the effect was mediated.

For sake of clarity, the reported mediation analyses were conducted excluding hypothesized moderators of mediation paths. However, other parallel mediation analyses with all hypothesized variables included (in other words, mediation analyses based on the complete model as depicted in Figure 1) were also conducted. This more stringent test of mediation did not alter findings in any appreciable way. Consistent with Hypothesis 1, interpersonal injustice was again seen to fully mediate the association between IWES and strain.

Having established evidence for mediation, another important goal of this study involved examining moderators of the mediation links (i.e., of path a and b).

Moderators of the Predictor-Mediator Link

Three variables were hypothesized to influence the strength of the association between the study stressor (IWES) and mediator (Interpersonal Injustice) variables. Namely, it was

hypothesized that the association between interpersonal workplace events and interpersonal justice perceptions (path a from Figure 5) would be stronger:

1. In departments where there is lower tolerance for negative interpersonal behaviours (Hypothesis 2);

2. For employees that place greater importance on work meeting their needs for positive or rewarding social relationships (Hypothesis 3);

3. For employees higher in negative affectivity (Hypothesis 7).

These hypotheses were tested using multilevel modeling procedures. As previously noted, existing research has yet to significantly consider the simultaneous influence of multiple moderators or the manner in which different moderators interact with one another within the stress process. Consequently, rather than testing each moderator in a separate set of analyses, they were considered simultaneously. This allowed for the investigation of three-way interactions involving individual-level and group-level moderators. The analyzed model is depicted in equation format below.

Level-one Model: $Y_{ij} = \beta_{0j} + \beta_{1j}*X1_{ij} + \beta_{2j}*X2_{ij} + \beta_{2j}*X3_{ij} + \beta_{2j}*X4_{ij} + \beta_{2j}*X5_{ij} + r_{ij}$

Level-two Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*G1_{j} + u_{0j}$

$\beta_{1j} = \gamma_{10} + \gamma_{11}*G1_{j} + u_{1j}$

$\beta_{2j} = \gamma_{20} + \gamma_{21}*G1_{j} + u_{2j}$

$\beta_{3j} = \gamma_{30} + \gamma_{31}*G1_{j} + u_{3j}$

$\beta_{4j} = \gamma_{40} + \gamma_{41}*G1_{j} + u_{4j}$

$\beta_{5j} = \gamma_{50} + \gamma_{51}*G1_{j} + u_{5j}$

Where:

Y_{ij} = Interpersonal injustice

$X1_{ij}$ = Interpersonal Workplace Events Scale (IWES)

$X2_{ij}$ = Interpersonal workplace values (Values)

$X3_{ij}$ = Negative Affectivity (NA)

$X4_{ij}$ = IWES by Values interaction (IWES*Values)

$X5_{ij}$ = IWES by NA interaction (IWES*NA)

$G1_j$ = Interpersonal workplace norms (Norms)

γ_{00} = level-two intercept term

γ_{10} = level-two slope coefficient representing linear effect of X1 (IWES) on Y (Injust)

γ_{20} = level-two slope coefficient representing linear effect of X2 (Values) on Y (Injust)

γ_{30} = level-two slope coefficient representing linear effect of X3 (NA) on Y (Injust)

γ_{40} = level-two slope coefficient representing X1 by X2 (IWES*Values) interaction

γ_{50} = level-two slope coefficient representing X1 by X3 (IWES*NA) interaction

γ_{01} = level-two slope coefficient representing linear effect of G1 (Norms) on Y (Injust)

γ_{11} = level-two slope coefficient representing X1 by G (IWES*Norms) interaction

γ_{21} = level-two slope coefficient representing X2 by G (Values*Norms) interaction

γ_{31} = level-two slope coefficient representing X3 by G (NA*Norms) interaction

γ_{41} = level-two slope coefficient representing X1 by X2 by G (IWES*Values*Norms) interaction

γ_{51} = level-two slope coefficient representing X1 by X3 by G (IWES*NA*Norms) interaction

r_{ij} = level-one random effect describing errors of prediction

u_{0j} through u_{5j} = level-two random effect terms associated with β_{0j} through β_{5j} respectively

  Table 12 presents data analytic results for the above model. The first five rows of the table presents intercept and linear effect findings for the individual and unit level predictors; the next five rows of the table presents two-way interaction findings for the three individual level

moderators and the unit level moderator; the last two rows of the table presents three-way interaction findings involving individual and group level moderators.

TABLE 12

Study Two: Parameter Estimates of the Multilevel Model of Interpersonal Injustice
as a Function of Individual and Group Level Predictors

Predictor	Fixed Effects	
	Parameter Name	Parameter Estimate
Intercept	γ_{00}	2.796***
Interpersonal Workplace Events Scales (IWES)	γ_{10}	0.354**
Interpersonal Workplace Values (Values)	γ_{20}	-0.073
Negative Affectivity (NA)	γ_{30}	0.194
Interpersonal Workplace Norms (Norms)	γ_{01}	0.116
IWES*Values -- Hypothesis 3	γ_{40}	-0.069
IWES*NA -- Hypothesis 7	γ_{50}	-0.182
IWES*Norms -- Hypothesis 2	γ_{11}	-0.050
Values*Norms	γ_{21}	0.182†
NA*Norms	γ_{31}	-0.019
IWES*Values*Norms	γ_{41}	0.001
IWES*NA*Norms	γ_{51}	0.154*

Note. All associated random effects were not statistically significant and were trimmed from the model. All predictor variables were grand mean centered in analyses. N = 96.

† $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

As seen in the second row of Table 12, a significant main effect for IWES on interpersonal injustice was seen, $\gamma_{10} = .354$, t (74) = 3.045, p < .01. This finding shows that as exposure to self-reported interpersonal events as measured in the IWES increased, respondents reported increasing interpersonal injustice perceptions. A significant interaction effect involving two out of the three hypothesized moderator variables was also observed. Although none of the slope coefficients corresponding to the hypothesized two-way interactions were observed to be statistically significant, a higher order effect involving moderators related to hypotheses 2 and 7 was observed. Namely, as seen in the last row of the Table 12, evidence for a three-way interaction between IWES, NA, and Norms was obtained, $\gamma_{51} = .154$, t (74) = 2.032, p < .05. Subgroup analyses were conducted in order to further probe the nature of this interaction (e.g., see Goldman, 2003; Cropanzano, Slaughter, & Bachiochi, 2005)[4]. This involved splitting the sample at the median for the unit-level interpersonal workplace norms variable such that two subgroups were formed; one subgroup contained responses from employees in departments characterized by high tolerance for negative interpersonal workplace interactions (i.e., high Norms subgroup) while the other contained responses from employees in a setting with low tolerance (i.e., low Norms subgroup). These subgroups were then analyzed using the same model used for all the data (for which equations appear above and results appear in Table 12); however, the linear effects and interactions involving the interpersonal workplace norms variable were removed. Lastly, the IWES by NA interaction effects in both the high and low Norms subgroups were plotted. Results for analyses of the high and low Norms subgroups are presented in Table 13. Of relevance to interpreting the significant three-way interaction are the findings

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[4] When probing interaction effects, using the J-N technique (Johnson & Fay, 1950; Johnson & Neyman, 1936) to identify areas of significance for simple slopes can provide unstable estimates for multilevel models, particularly for cross-level interactions (i.e., interactions involving individual and unit level moderators) when there is a small unit-level sample size—as in the present investigation (Bauer & Curran, 2005). Probing interaction through subgroup analyses was therefore judged to be preferable in the present context.

pertaining to the IWES and NA variables, and their interaction. As seen in the upper half of Table 13, in the high Norms subgroup, the IWES by NA interaction term was not found to be statistically significant, $\gamma_{50} = .028$, t (37) = .256, p > .05. However, a positive and significant main effect for IWES was observed, $\gamma_{10} = .300$, t (37) = 2.16, p < .05. These findings are depicted in the left-hand graph in Figure 6. The positively sloped lines depicted in this graph representing the relation between IWES and injustice for high and low NA respondents are essentially parallel and overlapping.

Turning now to the lower half of Table 13, for the low Norms subgroup we see that the IWES by NA interaction reached a marginal level of statistical significance, $\gamma_{50} = .741$, t (37) = 1.666, p < .10. This interaction is depicted in the right-hand graph in Figure 6. In this graph, the simple slope for high-NA respondents (i.e., one standard deviation above the mean on NA) was positive and statistically significant, b = .77, t (40) = 2.645, p < .01. Although the simple slope for low-NA respondents (i.e., one standard deviation below the mean on NA) did not reach statistical significance, b = .15, t (40) = .755, p > .05, this slope seemed consistent with the slopes obtained for the high Norms subgroup seen on the left-hand side of the figure. Of the four simple slopes seen in Figure 6, the high-NA slope in the low norms subgroup appeared to depart most from the others. Focusing on this difference in interpreting the three-way interaction, one may note that although exposure to IWES-behaviours was generally associated with increasing levels of interpersonal injustice, this effect was most powerful for high NA individuals in settings where such behaviours would be considered counter normative (i.e., departments where negative interpersonal behaviours are less tolerated—low Norms settings), b = .77, t (40) = 2.645, p < .01.

Controlling for the following demographic variables, considered one at a time, did not change the above moderation findings in any appreciable way: gender, race (white vs. non-white), education (did not complete high-school vs. completed high-school vs. completed more than high-school), age (less than 39 vs. 40-49 vs. greater than 49), and survey order.

TABLE 13

Study Two: Predictors of Interpersonal Injustice for High and Low Norm Subgroups

Predictor	Fixed Effects	
	Parameter Name	Parameter Estimate
High Norms Subgroup		
Intercept	γ_{00}	3.003***
Interpersonal Workplace Events Scales (IWES)	γ_{10}	0.300*
Interpersonal Workplace Values (Values)	γ_{20}	0.044
Negative Affectivity (NA)	γ_{30}	0.185
IWES*Values	γ_{40}	-0.102
IWES*NA	γ_{50}	0.028
Low Norms Subgroup		
Intercept	γ_{00}	2.379***
IWES	γ_{10}	0.459**
Values	γ_{20}	-0.246*
NA	γ_{30}	0.785**
IWES*Values	γ_{40}	0.051
IWES*NA	γ_{50}	0.741†

Note. All associated random effects, except for u_0 in the Low Norms subgroup ($\chi^2 = 36.90$, p < .001), were not statistically significant and were trimmed from models. All predictor variables were grand mean centered in analyses.

† p < .10   * p < .05   ** p < .01   *** p < .001

Figure 6: Interpersonal injustice as predicted by the three-way interaction between IWES, NA, and Norms for Study Two

High Norms subgroup

Low Norms subgroup
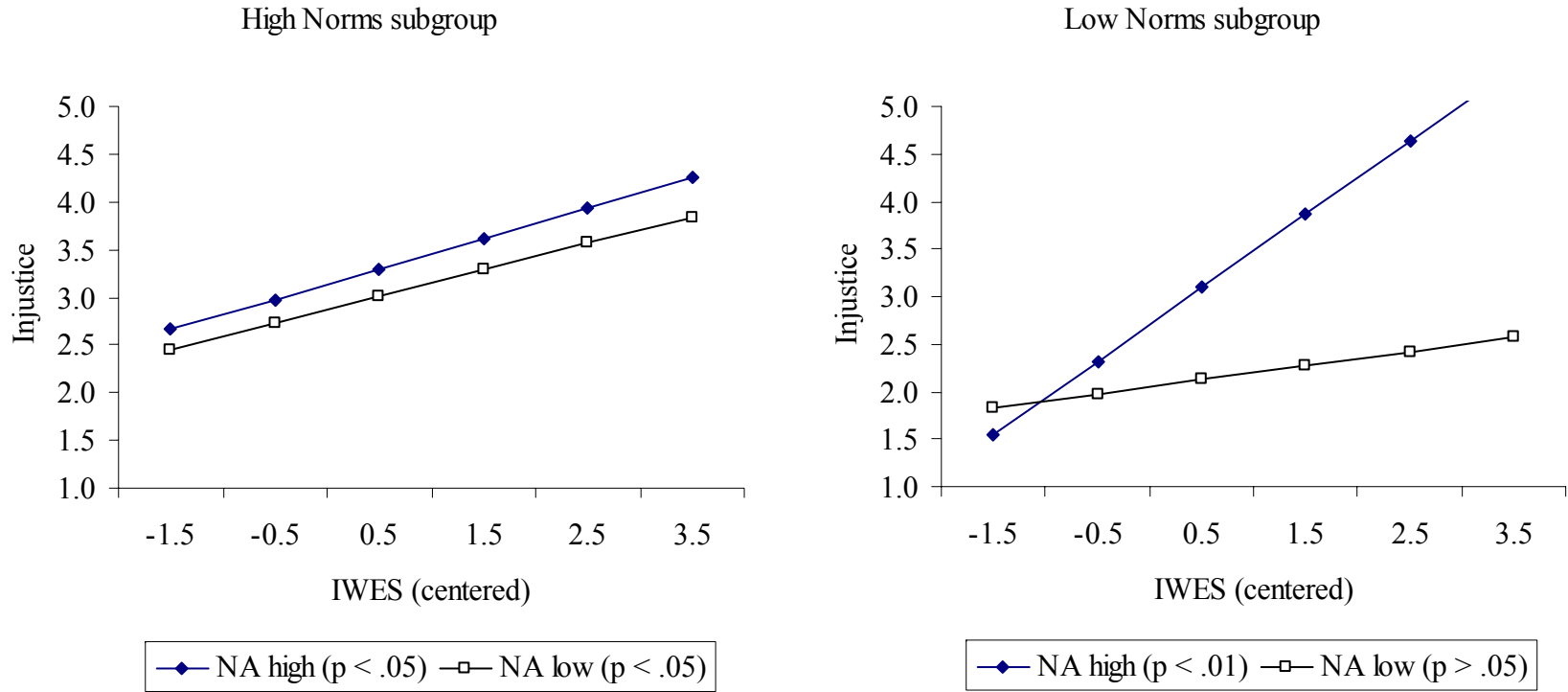
Moderators of the Mediator-Outcome Link

Four variables were hypothesized to influence the strength of the association between the study mediator and strain variables. Namely, it was hypothesized that the association between interpersonal injustice perceptions and strain (path b from Figure 5) would be:

1. Weaker in departments where there are greater provisions of emotional and instrumental social support (hypothesis 4 and 5);

2. Weaker for employees higher in interpersonal control (hypothesis 6);

3. Stronger for employees higher in negative affectivity (hypothesis 8).

These hypotheses, along with three-way interactions involving individual and group level moderators, were tested using the analytic model depicted in equation format below.

Level-one Model: $Y_{ij} = \beta_{0j} + \beta_{1j}*X1_{ij} + \beta_{2j}*X2_{ij} + \beta_{2j}*X3_{ij} + \beta_{2j}*X4_{ij} + \beta_{2j}*X5_{ij} + r_{ij}$

Level-two Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*G1_j + \gamma_{02}*G2_j + u_{0j}$

$\beta_{1j} = \gamma_{10} + \gamma_{11}*G1_j + \gamma_{12}*G2_j + u_{1j}$

$\beta_{2j} = \gamma_{20} + \gamma_{21}*G1_j + \gamma_{22}*G2_j + u_{2j}$

$\beta_{3j} = \gamma_{30} + \gamma_{31}*G1_j + \gamma_{32}*G2_j + u_{3j}$

$\beta_{4j} = \gamma_{40} + \gamma_{41}*G1_j + \gamma_{42}*G2_j + u_{4j}$

$\beta_{5j} = \gamma_{50} + \gamma_{51}*G1_j + \gamma_{52}*G2_j + u_{5j}$

Where:

Y_{ij} = Strain

$X1_{ij}$ = Interpersonal injustice (Injustice)

$X2_{ij}$ = Interpersonal control (Control)

$X3_{ij}$ = Negative affectivity (NA)

$X4_{ij}$ = Injustice by Control interaction (Injust*Control)

$X5_{ij}$ = Injustice by NA interaction (Injust*NA)

$G1_j$ = Emotional work-based support (EWS)

$G2_j$ = Instrumental work-based support (IWS)

γ_{00} = level-two intercept term

γ_{10} = level-two slope coefficient representing linear effect of X1 (Injustice) on Y (Strain)

γ_{20} = level-two slope coefficient representing linear effect of X2 (Control) on Y (Strain)

γ_{30} = level-two slope coefficient representing linear effect of X3 (NA) on Y (Strain)

γ_{40} = level-two slope coefficient representing X1 by X2 (Injust*Control) interaction

γ_{50} = level-two slope coefficient representing X1 by X3 (Injust*NA) interaction

γ_{01} = level-two slope coefficient representing linear effect of G1 (EWS) on Y (Strain)

γ_{11} = level-two slope coefficient representing X1 by G1 (Injust*EWS) interaction

γ_{21} = level-two slope coefficient representing X2 by G1 (Control*EWS) interaction

γ_{31} = level-two slope coefficient representing X3 by G1 (NA*EWS) interaction

γ_{41} = level-two slope coefficient representing X1 by X2 by G1 (Injust*Control*EWS) interaction

γ_{51} = level-two slope coefficient representing X1 by X3 by G1 (Injust*NA*EWS) interaction

γ_{02} = level-two slope coefficient representing linear effect of G2 (IWS) on Y (Strain)

γ_{12} = level-two slope coefficient representing X1 by G2 (Injust*IWS) interaction

γ_{22} = level-two slope coefficient representing X2 by G2 (Control*IWS) interaction

γ_{32} = level-two slope coefficient representing X3 by G2 (NA*IWS) interaction

γ_{42} = level-two slope coefficient representing X1 by X2 by G2 (Injust*Control*IWS) interaction

γ_{52} = level-two slope coefficient representing X1 by X3 by G2 (Injust*NA*IWS) interaction

r_{ij} = level-one random effect describing errors of prediction

u_{0j} through u_{5j} = level-two random effect terms associated with β_{0j} through β_{5j} respectively

Table 14 presents data analytic results for the above model. The first six rows of the table present intercept and linear effect findings for the individual and unit level predictors; the next eight rows of the table present two-way interaction findings for the three individual level moderators and the two unit level moderators; the last four rows of the table present three-way interaction findings involving individual and group level moderators.

Significant interaction findings were observed for three out of the four hypothesized moderators. As seen in the middle of Table 14, only the Injustice by NA two-way interaction corresponding to hypothesis 8 was statistically significant, $\gamma_{50} = -.991$, t (68) = -1.903, p < .05. Although the other two-way interactions did not reach statistical significance, a higher order effect involving two of the other moderators (associated with hypotheses 5 and 6) was observed. Namely, as seen in the third row from the bottom of Table 14, a significant three-way Injustice by Control by IWS interaction effect was obtained, $\gamma_{42} = -2.512$, t (68) = -1.738, p < .10. The nature of these interactions will be discussed next, starting with the significant two-way interaction.

TABLE 14

Study Two: Parameter Estimates of the Multilevel Model of Strain
as a Function of Individual and Group Level Predictors

Predictor	Fixed Effects	
	Parameter Name	Parameter Estimate
Intercept	γ_{00}	4.822***
Interpersonal Injustice (Injust)	γ_{10}	1.464***
Interpersonal Control (Control)	γ_{20}	-0.013
Negative Affectivity (NA)	γ_{30}	1.400**
Emotional Work-Based Support (EWS)	γ_{01}	1.883
Instrumental Work-Based Support (IWS)	γ_{02}	-1.868
Injust*Control -- Hypothesis 6	γ_{40}	0.422
Injust*NA -- Hypothesis 8	γ_{50}	-0.991*
Injust*EWS -- Hypothesis 4	γ_{11}	-1.221
Injust*IWS -- Hypothesis 5	γ_{12}	0.076
Control*EWS	γ_{21}	-2.318†
Control*IWS	γ_{22}	0.695
NA*EWS	γ_{31}	-4.545†
NA*IWS	γ_{32}	4.410
Injust*Control*EWS	γ_{41}	2.364
Injust*Control*IWS	γ_{42}	-2.512†
Injust*NA*EWS	γ_{51}	0.788
Injust*NA*IWS	γ_{52}	-0.977

Note. All associated random effects, except for u_0 ($\chi^2 = 42.97$, p < .05), were not statistically significant and were trimmed from the model. All predictor variables were grand mean centered in analyses.

† p < .10   * p < .05   ** p < .01   *** p < .001

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Figure 7 depicts the Injustice by NA two-way interaction. The simple slope for the low-NA group was statistically significant, $b = 2.1$, $t(71) = 4.036$, $p < .001$. The simple slope for the high-NA group reached marginal levels of statistical significance, $b = .83$, $t(71) = 1.579$, $p < .10$. Surprisingly, inconsistent with hypothesis 8, high levels of NA were not seen to act as a sensitizer of the injustice-strain association. Rather, low-NA respondents were seen to possess a stronger injustice-strain association (as depicted by the steeper slope for this group in Figure 7) than the high-NA respondents. However, high-NA respondents generally appeared to report greater absolute levels of strain than low-NA individuals. As seen in the figure, over most of the range of injustice scores, high-NA respondents reported greater absolute levels of strain. It is only at the very highest levels of injustice that the low-NA respondents are seen to experience equal, or perhaps slightly higher, levels of strain. The higher respondents' level of NA, the flatter and more elevated the slope describing their injustice by strain association. For individuals with the highest levels of NA, strain was experienced independent of the extent of injustice that is reported; such respondents experienced high levels of strain at all levels of interpersonal injustice. It was only for individuals with lower levels of NA that we saw increasing levels of strain with increasing perceptions interpersonal injustice. A more straightforward interpretation of the figure is that it requires a great deal of stress to adversely influence low NA individuals whereas for high NA individuals even low levels have negative effects.

Figure 7: Strain as predicted by the two-way interaction between Injustice and NA for Study Two
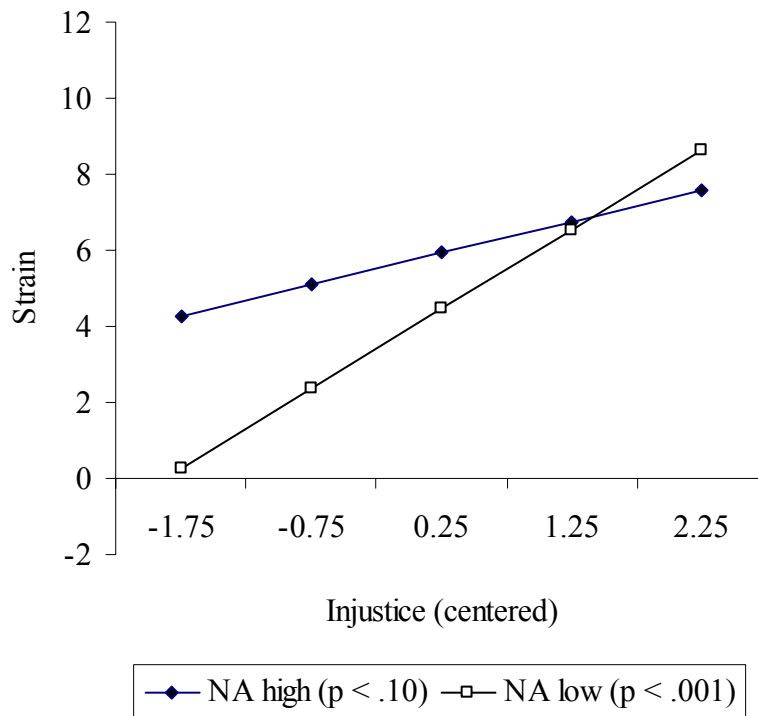
Although the observed pattern of findings was inconsistent with the hypothesis that NA would act as a sensitizer of the effects of interpersonal injustice on strain, it was consistent with the characterization of high-NA individuals as broadly or consistently experiencing the world negatively (Spector, Zapf, Chen, & Frese, 2000). This was seen by the increasingly elevated and flattened injustice by strain slope seen with increasing levels of NA. The current pattern of findings is also consistent past research from the justice literature. For example, Irving, Coleman, and Bobocel (2005) reported a similar pattern of findings for the moderating effects of NA on the association between procedural justice (i.e., the fairness of processes used to determine outcome distributions) and job satisfaction. Namely, the association between perceptions of procedural justice and job satisfaction was weaker for employees that scored highest on NA. Similarly, in a study conducted by Hochwarter, Amason, and Harrison (1995), a stronger relation between perceived inequity and turnover intensions was observed among lower-NA individuals. One explanation for such findings is that low-NA individuals may be more sensitive to interpersonal injustice because negative or disrespectful behaviour is more meaningful to them than to individuals predisposed to experiencing negative affect (Judge, 1993; Weitz, 1952). In other words, for individuals with a less negative outlook toward life, negative events (such as experiencing disrespectful behaviour) may be of greater consequence than for more negative individuals for whom such occurrences are more consistent with how they generally experience the world. However, such an explanation is inconsistent with previously reported moderator findings regarding the stressor-mediator link. As was reported, the association between interpersonal workplace events and interpersonal injustice perceptions were strongest among high NA individuals in low norm settings.

An alternative explanation for the current observed pattern of findings may be that high-NA individuals report higher levels of interpersonal injustice and strains due to a response set (e.g., a tendency to generally respond negatively to survey items) such that the ability to detect a relation between interpersonal injustice and strain is enhanced for low-NA individuals (Judge, 1993). Findings relating to the stressor-disrespect relation may have been less influenced by this artefact because the stressor measure was designed to be more objectively worded.

Having considered the significant two-way interaction finding, next the three-way Injustice by Control by IWS interaction is considered.

In order to facilitate the interpretation of the three-way interaction, subgroup analyses were conducted. Here, two groups were formed based on a median split on the unit-level IWS variable such that one subgroup contained responses from employees in departments that provided high levels of instrumental support (i.e., high IWS subgroup) whereas the other subgroup contained responses from employees in departments that provided low levels of instrumental support (i.e., low IWS subgroup). Next, the two-way Injustice by Control interactions in the high and low IWS subgroups were considered. Results for subgroup analyses are presented in Table 15. In this table, the findings of relevance to interpreting the three-way interaction are those pertaining to the Injustice and Control variables, and their interaction.

As seen in the middle of the table, under the first column of parameter estimates, the Injustice by Control interaction was not statistically significant in the High IWS subgroup, $\gamma_{42} = 0.223$, $t(28) = 0.322$, $p > .05$. However, a positive and marginally significant main effect for Injustice was observed, $\gamma_{10} = 1.522$, $t(28) = 1.696$, $p < .10$. These findings are depicted in the left-hand graph in Figure 8. The positively sloped lines depicted in this graph representing the association between Injustice and Strain for respondents high and low in Control (i.e., one

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standard deviation above and below the mean on Control) are essentially parallel and overlapping.

Returning to Table 15, again in the middle of the table but under the second column of parameter estimates, we see that the Injustice by Control interaction was statistically significant in the Low IWS subgroup, $\gamma_{42} = 1.186$, t (34) = 2.650, p < .05. This interaction is depicted in the right-hand side of Figure 8. In this graph, the simple slope for high-control respondents was positive and statistically significant, b = 2.465, t (35) =, p < .001. Although the simple slope for low-control respondents did not reach statistical significance, b = 0.361, t (35) = p > .05, this slope seemed consistent with the slopes obtained for the high IWS subgroup seen on the left-hand side of the figure.

Of the four simple slopes seen in Figure 8, the one for the high-Control respondents in the low IWS subgroup most markedly differed from others, b = 2.465, t (35) =, p < .001. With this focus, one may note that as employees' reports of the extent to which they were treated interpersonally unfairly (e.g., disrespectfully) at work increased, they generally experienced increasing levels of strain. Surprisingly, this effect was most powerful for respondents with greater perceived agency in interpersonal contexts (high Control) when in settings where their coworkers do not go out of their way to do things to make their work life easier and can not be relied on when things get though at work (low IWS settings).

These findings are inconsistent with the typical assumption in theory and research from the occupational stress literature regarding the role of control related beliefs in the stress process, as well as with the present study's hypothesis that control would act to buffer the effects of interpersonal injustice on strain. Here findings suggest that rather than alleviate strain, control is associated with greater strain—albeit in settings that provide little instrumental support. A

possible explanation for this unexpected finding may relate to the behavioural coping efforts typically taken by individuals with high and low control-related beliefs, in particular whether they adopt problem-focused or emotion-focused coping strategies (Lazarus & Folkman, 1984). High levels of control are associated with problem-focused coping strategies that are active, externally directed, and aimed at directly addressing the problematic situation or the problem's source (Spector, 1998; Parkes, 1984). Individuals with low control-related beliefs, having little faith in their abilities to successfully handle problematic situations, favour emotion-focused coping strategies that are more passive and internally directed such as denial, avoidance, acceptance, or other methods aimed at regulating emotional distress (Spector, 1998). Although problem-focused strategies are generally considered more effective than emotion-focused strategies which are thought to be more maladaptive (Jex, Bliese, Buzzell, & Primeau, 2001; Zellars & Perrwe, 2001), both forms of coping may result in negative and positive consequences (Schonpflug, 1986). Consistent with this, both laboratory and field studies have shown that control does not always lead to positive consequences (Cohen & Lazarus, 1979; Thompson, 1981). For example, although enhanced adaptation and performance may result from the greater effort and workload associated with attempts to exercise one's perceived control, sustained efforts contributing to problem resolution and achievement can also lead to physiological and psychological decrements (Schonpflu, 1986; Tattersall & Farmer, 1995). In this sense, active coping efforts associated with high control can contribute to strain. Furthermore, the effectiveness of problem-focused coping efforts is an additional factor that can determine whether negative consequences are experienced.

Although the self-imposed responsibility, and sustained, active coping efforts associated with control can be detrimental to well-being, negative consequences are particularly likely when

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such efforts are unsuccessful (Spector, 1998). Attempting to exercise one's control in situations where such efforts are unlikely to overcome the problem may therefore result in greater detriments to well-being than attempts to deal with the unchangeable situation on a more emotional level. In situations where change and problem resolution are unlikely, avoiding the frustrations of failure may be less harmful.

Folkman (1984) also speculated that exercising control can have negative social consequences such as public stigma and humiliation. For example, a problem-focused strategy for dealing with disrespectful workplace treatment might involve approaching superiors or other coworkers for help with the situation. Having to admit to one's problems can be upsetting and humiliating in itself, but particularly knowing that victims are often blamed for their transgressors offences (Ryan, 1976).

Applying such thinking to the present study findings, perhaps efforts taken by high control individuals to address their perceived disrespectful workplace treatment are less effective and more likely associated with negative social consequences in settings that provide little instrumental support. In such settings, problem-focused behavioural coping strategies may in fact results in greater strain if such efforts are likely to be unsuccessful in addressing perceived disrespectfulness and if socially harmful consequences such as public humiliation and victim blaming are more likely to occur. In situations where one has little support and presumably where problem-focused coping strategies are less likely to be successful, emotion-focused strategies may be less detrimental to well-being. This line of thinking would explain the steeper slope seen in the right-hand side Figure 8 describing the association between interpersonal injustice and strain observed for high control individuals in settings that provide low levels of instrumental support.

As was the case for previously reported moderation analyses, controlling for gender, race, education, age, and survey order (considered one at a time), did not change moderator findings for the mediator-outcome link in any appreciable way.

TABLE 15

Study Two: Fixed Effects Findings for Predictors of Strain for High and Low
Instrumental Work-Based Support (IWS) Subgroups

Predictor	Parameter Name	Fixed Effects	
		High IWS Subgroup	Low IWS Subgroup
		Parameter Estimate	Parameter Estimate
Intercept	γ_{00}	3.575***	5.867***
Interpersonal Injustice (Injust)	γ_{10}	1.522†	1.413**
Interpersonal Control (Control)	γ_{20}	0.047	0.579
Negative Affectivity (NA)	γ_{30}	1.613*	1.156†
Emotional Work-Based Support (EWS)	γ_{01}	0.968	1.216
Injust*Control	γ_{40}	0.223	1.186*
Injust*NA	γ_{50}	-0.819	-0.901*
Injust*EWS	γ_{11}	-2.177	1.381
Control*EWS	γ_{21}	1.702	-0.116
NA*EWS	γ_{31}	0.897	-1.576
Injust*Control*EWS	γ_{41}	3.461	2.983
Injust*NA*EWS	γ_{51}	4.469	-1.221

Note. All associated random effect findings, except for u_1 in the Low IWS subgroup ($\chi^2 = 26.19$, $p < .05$) and u_0 in the High IWS subgroup ($\chi^2 = 22.64$, $p < .05$), were not statistically significant and were trimmed from models. All predictor variables were grand mean centered in analyses.

† $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Figure 8: Strain as predicted by the three-way interaction between Interpersonal Injustice, Interpersonal Control, and Instrumental Work-Based Support (IWS) for Study Two
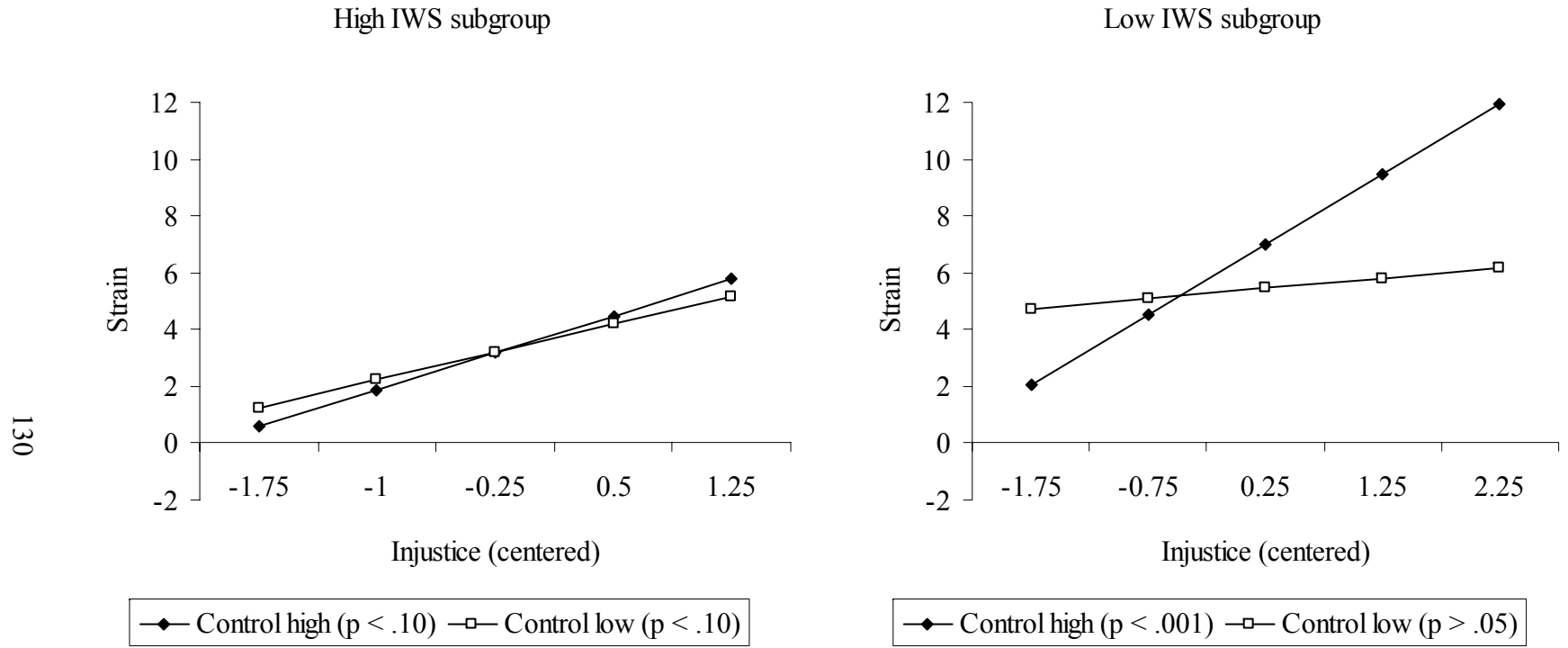
Discussion

The present study combined theory and research from largely independent literatures related to occupational stress and organizational justice to present a framework for understanding a mediator and moderators of associations between negative interpersonal workplace interactions and employee well-being. In drawing from constructs studied in these academic domains, consistent with calls from both literatures for greater consideration of group-level variables and multilevel theorizing (e.g., Bliese & Jex, 2002; Liao & Rupp, 2005), a series of propositions were tested using data analytic techniques (i.e., multilevel modeling) little-applied in these areas. These propositions were presented as a model that, as opposed to the many general stress models in the existing literature, was specific to social stressors. Although findings were consistent with the primary research hypothesis in this study regarding mediation of stressor-strain relations, mixed support was obtained for the remaining propositions regarding moderators of the proposed mediation sequence.

The primary research hypothesis of the current study posited that the relations between interpersonal workplace events and negative employee-related consequences (i.e., the stressor-strain relation) would be mediated by interpersonal injustice perceptions. In other words, interpersonal workplace treatment was expected to lead to strain when such treatment was experienced as being disrespectful or interpersonally unjust. Findings from lower-level mediation analyses supported this hypothesis. Interpersonal injustice was found to mediate the relation between the study stressor and strain variables. Consistent with our theorizing and with findings from Study One, this further supports the importance of disrespect as a mechanism explaining associations between interpersonal treatment and detriments to well-being.

On a more practical note, such findings also suggest that organizations can help minimize detriments to employee well-being by discouraging behaviour that can be perceived as disrespectful at work. The recommendation that unfair or disrespectful interpersonal treatment be avoided in organizational contexts is not a new one; it is a recurring message from the organizational justice literature. However, although such recommendations generally speak to the management of disrespectful or unfair behaviour, justice research has typically measured more general justice perceptions (i.e., direct measures) or perceived violations of rules that promote a sense of fairness (i.e., indirect measures; Lind & Tyler, 1988). Although certain indirect justice measures contain behaviourally worded items, they can be seen to also contain more subjective or interpretive items as well (e.g., see Colquitt & Shaw, 2005).[5] That there are specific behavioural antecedents to interpersonal justice perceptions is inherently assumed but seldom empirically demonstrated. The present findings are noteworthy in that they specifically point to behavioural antecedents of interpersonal injustice perceptions and thus more convincingly support suggestions that organizations manage behaviours to discourage disrespectfulness at work (as opposed to managing employee perceptions independent of behavioural management). Features of the stressor measure developed for this study are also important for supporting this implication.

This study's measure of interpersonal workplace behaviours was specifically developed to be objectively and behaviourally worded. A validation of this measure demonstrated that its items are worded as to imply significantly less interpretation, aversiveness, and disrespect than many of the most commonly used interpersonal stressor scales from the literature. This is important for minimizing possible confounding or overlap between the stressor and mediator (or

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[5] For example, the mediator measure used in this study is categorized as an indirect interpersonal justice measure yet contains evaluative and subjective rather than behavioral-worded items.

strain) variables and for substantiating our mediation findings. It is therefore noteworthy that our stressor-strain findings are the first in the literature using a validated interpersonal stressor measure. Accordingly, the development of a more objective measure of interpersonal stressors is another important contribution of this work. However, consistent with recommendations from other researchers, we do not mean to suggest that the study of subjectivity should be abandoned in stress research.

A great deal of discussion has taken place in the literature regarding the relative merits of objective and subjective approaches to the study of occupational stress. A concern with biases, method variance, and attempts to identify harmful environmental features associated with strain has led certain scholars to suggest that objective measurement approaches be favoured (e.g., Schaubroeck, 1999). In contrast, others feel research should focus on subjective appraisals because it is argued that individuals' interpretation of the objective environment is most important in the stress process and for determining potential harm, not the objective environment itself (e.g., Perrewé & Zellars, 1999). Still others have suggested that to better understand how the environment affects individuals' well-being both approaches are needed and an important present focus should be on understanding relations between the objective environment and subjective experience (e.g., Frese & Zapf, 1999). Consistent with this later suggested focus, although evidence supports convergence between objective and subjective reports, variability in these relations is seen (Jex & Beehr, 1991; Spector, 1992).

The current study findings help to further our understanding of relations between objective environmental events, subjective experience of such events, and resulting consequences to individuals. Namely, it was demonstrated that the link between social stressors and strain was mediated by subjective perceptions, interpersonal injustice perceptions

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specifically. Our moderator findings further speak to factors that influence the relation between the study stressor, mediator, and strain variables. Although researchers have differentiated between stressors, stress, and strain, the current study's attempt to study moderators within this framework is novel within the literature.

The first moderator finding pertained to the link between interpersonal workplace experiences and perceptions of interpersonal injustice (disrespect). We observed that although exposure to behaviours measured by our stressor measure was associated with increasing levels of interpersonal injustice perceptions, this relation was strongest among individuals high in negative affectivity (NA) when in settings where such behaviours would be considered counter-normative (i.e., departments where negative interpersonal behaviours are less acceptable or tolerated; see Figure 6).

The next set of moderator findings pertained to the link between interpersonal injustice (disrespect) and strain. Two significant interactions were observed. To begin, we observed that although high-NA individuals reported higher levels of strain, the relationship between interpersonal injustice and strain was stronger among low NA's. In other words, increasing levels of interpersonal injustice lead to more rapid increases in strain for low NA's whereas high NA's experienced more consistent but higher levels of strain (see Figure 7). Therefore, although NA was observed to moderate the mediator-outcome link, in contrast to findings from the stress literature (e.g., Moyle, 1995; Parkes, 1990), but consistent with those from the justice literature (e.g., Irving, Coleman, & Bobocel, 2005), it was low NA individuals that were seen to be most reactive to increasing disrespectfulness. What is less clear is whether such results reflect a response set associated with high NA's or whether disrespectful behaviour is more significant for individuals who generally experience the world less negatively (low NA's).

In addition to this finding, we also observed that the positive relation between interpersonal injustice and strain was stronger for respondents with greater perceived agency in interpersonal contexts (high Interpersonal Control) when in departments that provide less instrumental workplace support (low IWS settings). It was speculated that this unexpected outcome may be the result of the connection between interpersonal control and coping efforts. Although problem-focused coping efforts used by high-control individuals may result in greater strain when such efforts are unsuccessful (which is reasonable to expect in settings providing little instrumental support), further research into the role of coping and its connection to control-related beliefs should be considered.

In contrast to other hypothesized moderators, emotional work-based support (EWS) was not seen to play a substantive role when the effects of other variables were considered. Emotional support concerns the availability and willingness of others to listen to one's problems. Being able to voice one's problems can provide emotional or psychological benefit. Instrumental support on the other hand, which concerns being able to rely on others and the extent to which others go out of their way to provide help, involves more tangible provisions of assistance beneficial for actual problem resolution. However, instrumental support may involve psychological or emotional benefits and emotional support may be backed by tangible support. Indeed, it can be difficult to isolate different forms of support because they generally tend to be interrelated (Viswesvaran, Sanchez, & Fisher, 1999). In the present study, emotional and instrumental forms of support were relatively highly correlated ($r = .71$ and $r = .83$ at the individual and unit levels of analyses respectively). Nevertheless, research has shown variable effects for different forms of support (Uchino, Cacioppo, & Kiecolt-Glasser, 1996). This is consistent with research from the justice literature that demonstrates that having one's voice

considered is beneficial even if being heard does not help produce a more favourable outcome (Greenberg, 1990). "Instrumental" benefits of voice (i.e., voice influencing outcome favorability) and "value expressive" ones (i.e., benefits related to simply being heard) have both been documented in the literature (Lind, Kanfer, & Earley, 1990). Nevertheless, in the present study only provisions of instrumental support were observed to influence the relation between interpersonal injustice and strain. Given our belief that emotional support should also be seen to influence this relation, in further exploratory analyses we considered other possible models that might reveal an effect for this variable—aware that any obtained post-hoc evidence should be viewed tentatively. Suspecting that emotional and instrumental support may interact (e.g., perhaps different combinations of high or low support are meaningful in influencing the relation between interpersonal injustice and strain), we tested another model with an added level-two EWS by IWS interaction predictor term. This model was identical to the model for testing moderators of the interpersonal injustice-strain link (results of which appear in Table 14), but also included additional EWS by IWS interaction predictor terms in the equations of the Level-Two model.

This model revealed the same significant moderator findings involving the mediator-strain link reported previously in Table 14, however, an additional four-way interaction finding between Injustice, Control, EWS, and IWS was also seen, $\gamma_{53} = -2.147$, $t(54) = -2.241$, $p < .05$. Given that the available data was likely insufficient to provide a robust test of an interaction between the two unit-level variables (because of the smallish number of second level units), this finding should be considered with caution. Further subgroup analyses were not undertaken to explore the nature of this four-way interaction given that such analyses would roughly further reduce the sample being analyzed in half. To reiterate, the four-way interaction finding should

be considered a tentative indication of the possibility that IWS and EWS may interact in influencing stress-strain relations. However, together with supporting research and theorizing regarding the importance of emotional support in the stress process, further research into the role of EWS seems warranted.

Overall, findings from Study Two highlight that occupational stress research should not be limiting itself to the study of stressor-strain relations as has been a recent tendency, and draw attention to certain shortcomings in existing social stressor-strain findings. Our mediation findings suggest that when considering social stressors, the role of interpersonal injustice is important and should be considered. Our moderator findings are also noteworthy. Existing moderator evidence from the literature can be ambiguous because (1) often stressors and strain are studied in isolation without an explicit consideration of relevant cognitive mediating factors that explain how objective environmental features or events are experienced or interpreted, and (2) social stressor measures may be confounded with interpretation making it unclear whether moderators influence how objective events are experienced or whether they are influencing the relation between this experiential component and strain. Therefore, studying moderators of stressor-strain associations (particularly given stressor measures that are emotionally laden or interpretive in nature) leaves the question of how moderators are acting to influence such relations.

Another noteworthy feature of our moderator findings is that they not only involved individual-level variables as is typical in the literature, they also involved group-level variables. Bliese and Jex (1999) have discussed how individual-level findings point to interventions aimed at individuals (such as stress management training for employees), whereas aggregate-level findings more directly point to group-level interventions (such as policy changes or training for

supervisors). Little attention has been given to changing situational elements to reduce the negative effects of stress; this is unfortunate given that group-level interventions may be more effective for reducing negative stress-related outcomes in certain circumstances (Ganster & Murphy, 2000). In the present study we considered three group-level variables: norms, instrumental work-based support, and emotional work-based support.

A number of practical implications that follow from study results may be noted. These implications can be discussed according to the distinction made in the study between stressors, stress, and strains. The categorization of approaches to dealing with occupational stress in terms of primary, secondary, and tertiary prevention is consistent with this framework.

Primary prevention is concerned with identifying and reducing or eliminating elements or features in work environments that are potentially harmful to individuals (Cooper & Cartwright, 2001). In other words, such approaches target stressors directly. The present study results support the connection between social stressors and strain suggesting organizations take actions to manage or reduce behaviours that can easily be interpreted as disrespectful at work. By minimizing employees' exposure to behaviours such as considered in this study, organizations can directly address the source of harm. However, in certain circumstances stressors are an unavoidable part of one's work and can not be completely eliminated. For example, mental care workers may be exposed to patients who are abusive to them, police officers or correctional workers may also experience negative interpersonal treatment as part of their work. In such instances other approaches may also be required.

Secondary prevention approaches (also known as stress-management approaches) attempt to minimize the harmful consequences associated with exposure to stressors (Cooper & Cartwright, 2001). Examples of such approaches include cognitive-behavioural skills training

(which refer to a number of techniques aimed at helping individual alter their appraisal of stressors to reduce harmful consequences), progressive muscle relaxation, biofeedback, and meditation (Murphy, 2003). The current study findings speak to factors that can minimize the connection between stressors and perceptions of interpersonal injustice (i.e., reduce the sense of disrespectfulness experienced given exposure to negative behaviours), or that can minimize the connection between the experience of interpersonal injustice and strain (i.e., reducing the harmful effects of experiencing disrespectfulness at work).

The current study's moderator findings regarding the link between the study stressor and mediator variables suggest that interpersonal injustice perceptions are highest when individuals high in negative affectivity (NA) in settings with low tolerance for negative interpersonal behaviour are exposed to such acts. However, we would not recommend organizations attempt to influence workplace norms such that negative behaviours are perceived as more acceptable. Although this may reduce individuals' perceptions that such acts are disrespectful, such an approach would likely pose other drawbacks. Although the relation between the stressor and interpersonal injustice measures was higher in low-norm settings (for high NA's), high tolerance for negative interpersonal behaviour was also positively correlated with employee reports of the frequency of occurrence of such behaviour, interpersonal injustice perceptions, and self-reported strain ($r = .51$, $r = .52$, and $r = .38$ respectively as presented in Table 10). Consistent with this, rather than normalizing negative interpersonal treatment in an attempt to influence its perception, we suggest that minimizing such treatment should be preferred. Developing, communicating, and consistently and openly enforcing specific policies against negative interpersonal treatment (which would likely decrease perceived tolerance for such acts but also decrease their occurrence) should be encouraged, regardless of the possibility that it may result in more

responsiveness (in terms of experienced disrespectfulness) among certain employees. It also seems irresponsible or underhanded for organizations to manage employee experiences or perceptions of stressors when such stressors clearly are not justifiably related to the work and when they can otherwise be discouraged and minimized. We feel that disrespectfulness between colleagues is never justified.

The second set of moderator findings regarding the link between interpersonal injustice perceptions and strain support the importance of instrumental support for minimizing strain. The relation between interpersonal injustice and strain was generally lower in settings that provide high levels of instrumental workplace support (IWS); IWS was also negatively correlated with strain ($r = -.35$ as presented in Table 10). When disrespectful behaviour is experienced, having colleagues one can count and that will go out of their way to help can contribute to minimizing harmful consequences. Creating a supportive culture where employees are encouraged to look out for and assist one another is therefore another suggested action for organizations seeking to minimize worker strain.

Tertiary prevention approaches are concerned with the treatment and recovery of troubled workers (Cooper & Cartwright, 2001). In other words, the focus here is on dealing with existing strain. This typically involves the provision of counselling and other health related services often provided through employee assistance programs (EAP). This is a reactive approach in that it does not attempt to reduce the cause of the problem, it simply deals with it after the fact. Although such services have been found to be of benefit (Cooper & Cartwright, 1994) and should be made available to employees, this should not excuse organizations from acting to reduce workplace stressors.

In addition to its various contributions and implications, possible limitations of the present study should also be considered. To begin, the existing sample was not very heterogeneous in terms demographic factors such as gender, ethnicity, or industry of employment. A more heterogeneous sample of participants would have strengthened the generalizability of our findings and would also have allowed for a closer consideration of the effects of demographic variables. Further research placing specific interest on the role of such demographic variables within the framework studied here may therefore seek a more heterogeneous sample.

Another possible limitation of this research is that certain findings only reached marginal levels of statistical significance (i.e., $p < .10$) rather than the more traditional alpha level of $p < .05$. However, these were limited to interaction findings and instances involving subgroup analyses (where the sample size is roughly cut in half). However, given the difficulty of identifying interaction effects in field research it has been suggested that traditional criteria for statistical significance be relaxed (McClelland & Judd, 1993) making this issue less troublesome. In fact, given the many factors that could potentially reduce our ability to detect interaction effects, it is actually quite encouraging that several substantive and meaningful moderator effects were observed.

Lastly, when cross-sectional designs are employed and data is obtained using a single method as was the case in the current study, relations between variables may be said to be influenced by common method variance (Campbell & Fiske, 1959; Spector, 1992). However, several steps suggested by the literature were taken to guard against this possible threat. A more objectively worded stressor measure was developed and validated in an effort to minimize possible bias. Scales within the larger survey instrument were presented using separate

instructions to minimize routinized responding and predictors and outcomes appeared in two orders to counterbalance possible order effects. Analyses included aggregate variables which are less open to influence by bias and focused on moderated relations which are know not to be spuriously observed due to method bias. Finally negative affectivity and demographic variables were controlled for in all analyses in order to further help rule out other interpretations of study findings.

GENERAL DISCUSSION

There have been repeated calls for greater application of multilevel perspectives in organizational (e.g, Kozlowski & Klein, 2000), and more specifically, occupational stress (Bliese & Jex, 1999, 2002; Lansisalmi et al., 2000; Van Yperen & Snijders, 2000) research. Despite such calls and the benefits of incorporating multilevel perspectives, occupation-stress research has only slowly begun to adopt these practices. Social and interpersonal relationships have also been identified, among other psychosocial variables, as deserving greater attention in the occupational stress literature given the primary emphasis in the existing literature on the study of characteristics of jobs themselves (e.g., Kasl, 1998; Hammer, Saksvik, Nytrø, Torvatn, & Bayazit, 2004). The present investigation begins to address this dearth in the existing literature in seeking to address two main goals. The first goal was to provide greater insight into when and why social interactions at work can be harmful to employee well-being. Given the importance placed on objective measurement approaches in occupational stress, the difficulties in measuring social stressors objectively, and the widespread use of self-report instruments in the literature, the second main goal was to approach greater objectivity in the measurements of self-reported negative interpersonal workplace interactions. We sought to address these goals through two studies.

Theory was reviewed and evidence presented that spoke to the importance of disrespect as a specific feature of interpersonal behaviour that can explain associated detriments in well-being. Furthermore, individual-level and group-level variables that influenced the extent to which exposure to negative interpersonal behaviour is associated with harmful consequences to employee well-being were also considered. A number of strategies were also employed to enhance objectivity in the measurement of self-reported social stressors such as the use of

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aggregate variables, the study of moderated relations, and the development and validation of a more objectively worded stressor measure.

Consistent with our stand that cross-sectional research can continue to make substantive contributions to the academic literature, occupational-stress research that relies on cross-sectional designs continues to be published in reputable APA journals such as *Journal of Applied Psychology* (e.g., Grandey, Fisk, & Steiner, 2005), *Journal of Personality and Social Psychology* (e.g., Tougas, Beaton, Rinfret, & de la Sablonniere, 2005), I*nternational Journal of Stress Management* (e.g., Gelsema, van der Doef, Maes, Akerboom, & Verhoeven, 2005), and *Journal of Occupational Health Psychology* (e.g., Tucker, Sinclair, & Thomas, 2005). What the above mentioned studies share in common, besides their reliance on cross-sectional data, is that they address novel questions and take precautions to guard against inferential threats associated with their chosen methodology. Given the pervasiveness of cross-sectional self-report data, strategies for dealing with associated biases should in themselves be of interest. This is not to say that further work using more varied methods and statistical approaches would not be of value.

Although the present work made important contributions, many interesting future research directions remain to be explored. The present thesis focused on the concept of disrespect as the cognitive mechanism mediating the relation between exposure to negative interpersonal behaviour and the experience of stain. However, other constructs may also be of relevance. In Study One research and theorizing was reviewed that suggested that disrespectful behaviour alters peoples' view of themselves and their well-being. As elaborated, it was suggested that disrespect leads to detriments in well-being by signalling devaluation by others and lowered social standing, and by causing direct psychological and social harm. However, disrespectful behaviour may also signal the possibility of future harm and thereby further

contribute to strain. For example, Lazarus (1984) considered anticipated harm or loses in his

discussion of threat appraisals. An encounter can be categorized in terms of its perceived

potential harmfulness to the individual but also in terms of its potential for future harm. Lind

and Tyler (1988) also discussed how, in addition to signalling one's social standing, disrespectful

treatment also can signal the potential for further harm or wrongdoing from the perpetrator of the

disrespectful treatment. Disrespectful behaviour can thus not only involve immediate harm but

uncontrollable negative future consequences which can contribute to feelings of insecurity,

uncertainty, anxiety, and fear. For example, disrespectful behaviour from one's supervisor may

signal the possibility that they will violate other rights or harm us in other ways (for example by

thwarting one's professional advancement). Therefore, threat may present another important

cognitive mediating mechanism to be considered in future research. Furthermore, although the

present focus has been on cognitive mechanisms (because of our interest in how stressors are

interpreted), affective variables may also be worthy of further consideration as they can further

qualify how a stressor is experienced psychologically. Greater systematic efforts to study

emotions and emotional processes can further our understanding of the stress process (Cooper,

Dewe, & O'Driscoll, 2001). Justice research has shown that affective reactions are associated

with justice perceptions (e.g., Krehbiel & Cropanzano, 2000; Weiss, Suckow, & Cropanzano,

1999), and occupational stress models have also included a role for affect in the stress process

(e.g., Spector, 1998). The experience of disrespectfulness (and threat) is no doubt associated

with intense emotions; the role of such emotions in the stress process would therefore also be of

interest. Affective variables could play a number of roles within the framework applied in the

second study. For example, they could also act as mediators of the stressor-strain link either as

antecedents or consequences of more cognitive mediators.   Or perhaps certain emotional

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outcomes are better thought of as indicators of strain itself (e.g., anxiety). Alternatively, they may play a role as moderators of the links in the mediation sequence. For example, the extent of stress or strain may depend on an individual's emotional reaction.

In addition to other possible mediators, other moderators may also be relevant within the model examined and therefore be worthy of further research. As was previously suggested, coping strategies may represent one such variable. The study of coping and different forms of social support may be particularly relevant. The inclusion of variables other than NA that could more specifically speak to individual sensitivity to stressors and/or interpersonal injustice (disrespect) would also seem fruitful given the uncertainty regarding the mechanism of influence of NA. Certain individuals may be generally more sensitive to violations of their right to respectful treatment. Given sufficient variability in such sensitivity, this raises the possibility that the link between interpersonal stressors and injustice perceptions may be moderated by such an individual difference variable. Furthermore, the extent to which disrespectful treatment is perceived as having been deserved may vary as a function of the situation or encounter in question. Although disrespectful treatment may be considered unacceptable regardless of situational circumstances that might excuse this form of behaviour, situational elements may also influence individuals' likelihood to perceive interpersonal stressors as unjust. It would also be of interest to determine whether perceptions of interpersonal injustice are similarly associated to strain when the treatment was deemed to have been deserved. The possible influence of self-esteem on sensitivity and perceived deservingness may also be of interest.

The present study sought to discover general answers to when and why social interactions at work can be harmful to employee well-being. As a result, this work did not attempt to differentiate between specific sources and types of interpersonal behaviours, or examine

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associated differential outcomes. Although negative behaviours as initiated by different

organizational actors were considered, no attempt was made to differentiate between different

sources. Behaviours initiated by organizational leaders, as opposed to colleagues for example,

may show differential effects on individual well-being (perhaps because leaders have greater

control over other important outcomes such as pay and promotions). The first study focused on

leader behaviour, the second also considered behaviours initiated by other organizational

members. Thus, although different actors were considered, this work did not seek to understand

the relevance of such differences. Such a distinction may be relevant for understanding specific

indicators of strain. The source of organizational justice perceptions (e.g., justice perceptions

attributed to the organization vs. to one's supervisor) is relevant in determining specific

associated outcomes (Cropanzano, Byrne, Bobocel, & Rupp, 2001; Liao & Rupp, 2005).

Similarly, the present work did not seek to differentiate between different categories of

interpersonal-stressors such as forwarded in other work (e.g., Newman & Baron, 1998; O'Leary-

Kelly, Duffy, & Griffin, 2000). Although other research has failed to point to meaningful

categorizations of interpersonal behaviours (e.g., Newman & Keashly, 2004), further research

with a much larger sample size using the present stressor measure may suggest more meaningful

categories. This would enable the consideration of whether certain categories of interpersonal

stressors have specific effects. Although our more general approach was relevant for addressing

the main goals of this research, greater specificity in terms of sources and types of negative

behaviours, indicators of strain, and other variables considered in this work (e.g., moderators

such as social support) present an opportunity for a great deal of further advancement in this field

of study.

APPENDIX A

Variables Assessing Negative Interpersonal Workplace Interactions

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Abusive supervision (Tepper, 2000) has been defined as "subordinates' perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviours, excluding physical contact."

Bullying (Einarsen, Raknes, & Matthiesen, 1994) has been defined with the following description: "A person is bullied …when he or she feels repeatedly subjected to negative acts in the workplace, acts that the victim may find it difficult to defend themselves against."

Emotional abuse (Keashly, 1998) at work has been defined as "interactions between organizational members that are characterized by repeated hostile verbal and nonverbal behaviours (excluding physical contact) directed at one or more persons over a period of time such that the target's sense of self as a competent worker and person is negatively affected."

Generalized workplace abuse (Richmond, Flaherty, & Rospenda, 1996) has been defined as "violations of workers' physical, psychological, and/or professional integrities … nonsexual yet psychologically demeaning or discriminatory relationships."

Mobbing (Leymann, 1990, 1996) has been defined as "hostile and unethical communication that is directed in a systematic way by one or a number of persons mainly toward one individual who is pushed into a helpless and defenseless position."

Social Undermining (Duffy, Ganster, & Pagon, 2002) has been defined as "behaviours intended to hinder, over time, the ability to establish and maintain positive interpersonal relationships work-related success, and favourable reputation."

Workplace aggression (Newman & Baron, 1997) has been defined as "efforts by individuals to harm others with whom they work, or have worked, or the organization in which they are currently, or were previously, employed. This harm-doing is intentional and includes psychological as well as physical injury."

Workplace harassment (Bjorkqvist, Osterman, & Hjelt-Back, 1994) has been defined with the following description: "Repeated activities, with the aim of bringing mental (but sometimes also physical) pain, and directed toward one or more individuals who, for one reason or another, are not able to defend themselves."

Workplace incivility (Andersson & Pearson, 1999) has been defined as "low-intensity deviant behaviour with ambiguous intent to harm the target, in violation of workplace norms for mutual respect. Uncivil behaviours are characteristically rude and discourteous, displaying a lack of regard for others."

APPENDIX B

Study One Measure Items

Disrespectful leader behaviours

1. My boss deliberately provides false or misleading information to subordinates.
2. My boss tells subordinates how they should be spending their time when not at work.
3. My boss calls subordinates unflattering names.
4. My boss treats subordinates as servants.
5. My boss will make subordinates "pay" if they do not carry out his/her demands.
6. My boss is tougher on some subordinates because s/he dislikes them regardless of their work.
7. My boss shows no regard for subordinates' opinions.
8. My boss displaces blame for failures onto subordinates.
9. My boss reprimands subordinates in public.

Demanding leader behaviours

1. My boss demands that his/her subordinates do high quality work.
2. My boss insists that his/her subordinates work hard.
3. My boss demands that subordinates give their best effort.

Mental health items

1. Feeling low in energy or slowed down.
2. Nervousness or shakiness inside.
3. Crying easily.
4. Feelings of being trapped or caught.
5. Blaming yourself for things.
6. Heart pounding or racing.
7. Feeling everything is an effort.
8. Feeling blue.
9. Feeling fearful.
10. Feeling no interest in things.
11. Worrying too much about things.
12. Suddenly scared for no reason.
13. Feeling hopeless about the future.
14. Feelings of worthlessness.
15. Feeling that something bad is going to happen to you.
16. Feeling lonely

APPENDIX C

Workplace Experiences Survey

(begins on next page)

Dear employee,

We would like to invite you to complete a survey in which we hope to learn about employees' workplace experiences and attitudes. This study is being conducted by Mehrdad Derayeh, a doctoral student of the Department of Psychology at the University of Waterloo (as part of his PhD dissertation), under the supervision of Dr. John Michela, with the collaboration of union locals ███████████.

As a participant, you will be asked to complete a survey expected to take about 30 minutes to complete. On the survey, you will be asked about your workplace experiences, attitudes, and your personal characteristics. The type of questions you will be asked will be similar to the following: "to what extent do you find enjoyment with your work", and "how much has your supervisor gone out of his/her way to make your work life easier for you".

There are no known risks to participation in this study. You may not benefit personally from your participation in this study; however, the information obtained from this research may help improve our understandings of the relationships between various workplace experiences and employee attitudes which may, for example, help make workplaces more pleasant. Your participation is completely voluntary. If you decide to participate, you may withdraw from the study at any time. You may leave unanswered any question you prefer not to answer.

You may also be assured of complete confidentiality. Furthermore, only University of Waterloo researchers will have access to your survey responses, no employers or union officials will see your responses. Union locals will only receive a report summarizing the results of the survey. No individual could be identified from these summarized results. Thus, your name will not appear in any report, publication or presentation resulting from this study.

The survey is available in paper form or through the Internet. If you would rather take the survey through the Internet, the website where you can take the study is available at the end of this message. Otherwise, you may simply complete the current paper version of the survey. If you complete the current paper version of the survey, please return the completed survey using the stamped and addressed envelop provided. Your survey will be sent directly to the University of Waterloo researchers.

If you decide to take the survey through the internet, know that the web site is programmed to only collect responses from the questionnaire. That is, the site will not collect any information that could potentially identify you. Additionally, if after you begin the survey you decide you no longer wish to participate, simply close your web browser before you have finished the survey. Information entered until then will not be used. If you are completing the paper copy and decide you no longer wish to participate, you may dispose of the survey. Per professional guidelines, the data that is shared will be stored in a restricted access area of the university indefinitely after the research study has been completed.

This project has been reviewed and has received ethics clearance through the Office of Research Ethics at the University of Waterloo. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Susan Sykes at (519) 888-4567, ext. 6005 or by e-mail at ssykes@uwaterloo.ca.

We would be happy to respond to any questions you may have. You may contact the University of Waterloo researchers at the contact information presented below. Further, once the project is complete, you will be able to view a summary of the results of the survey online. These results are expected to be available in April, 2006.

Thank you for considering to participate.

Sincerely,

Mehrdad Derayeh, MA   John Michela, PhD
PhD Student   Associate Professor
University of Waterloo   University of Waterloo
(519) 888-4567 ext.: 2164   (519) 888-4567 ext.: 3786
mderayeh@watarts.uwaterloo.ca   jmichela@watarts.uwaterloo.ca

The survey can also be taken online at: https://www.arts.uwaterloo.ca/~mderayeh/workplace/

To complete the paper copy of the survey go to the next page.

Workplace Experiences Survey

<u>Instructions</u>

Welcome to the Workplace Experiences Survey. We appreciate that you have volunteered to participate. In this survey you will be asked to answer a number of questions about your workplace experiences, attitudes, and personal characteristics.

Please read each new set of instructions and the survey questions carefully and answer as honestly as possible. There are no rights or wrong answers. It should take you about 30 minutes to complete this survey. You will not be identified in the survey. If you have already completed this survey online or have completed a paper copy of this survey, do not take this survey again.
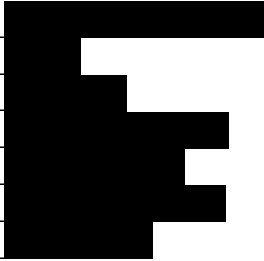
Go to next page to begin.
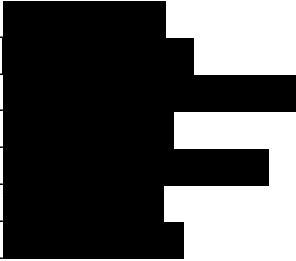
THANK YOU FOR YOUR PARTICIPATION!

All your responses will remain confidential and you may refrain from answering any questions you prefer not to answer.

1. Who is your current employer? (please check one)

    _____ ████████   _____ ████████   _____ ████████

    _____ ████████   _____ ████████

    _____ ████████   _____ ████████   Other: _____

    _____ ████████   _____ ████████   _____

    _____ ████████   _____ ████████   (write your response above)

    _____ ████████

2. How long have you been working at your present organization? _____ years

    If you DO NOT work at ████████████████████ **, skip to question 4.**
    If you do, answer question 3 before moving on to question 4.

3. If you work at ████████████, in what business area do you **mainly** work in?
    (If you do not work at ████████████████ skip to question 9)

    _____Press Shop   _____Assembly Jeep
    _____Hydroforming   _____I work equally across several areas
    _____Assembly 360   _____Other_____

4. What department or business unit do you **mainly** work in?

    Department name: _____

    Department number (if applicable): _____

5. How long have you been mainly working in this department? _____ years

6. What is your bargaining unit (unionization) status? (please check one)
    _____ Bargaining Unit (unionized)   _____ Non-Bargaining Unit (non-unionized)

7. What is the level of your supervisory responsibility? (please check one)
    _____ No supervisory responsibility   _____ Manager
    _____ First line supervisor/team leader   _____ Executive

8. During the past 12 months, what has been your employment status? (please check one)
    _____ Permanent, part-time   _____ Temporary, part-time
    _____ Permanent, full-time   _____ Temporary, full-time

INSTRUCTIONS: The following items refer to attitudes you may hold about your work. Use the response scale provided below to circle the number that corresponds to your response.

To what extent do you agree with the following statements?

Response scale		
1 = Strongly Disagree		5 = Somewhat Agree
2 = Disagree	4 = Neutral	6 = Agree
3 = Somewhat Disagree		7 = Strongly Agree

1. I have seriously considered leaving my current employer during the past year	1	2	3	4	5	6	7
2. Having a positive social atmosphere at work is important to me	1	2	3	4	5	6	7
3. Most days I am enthusiastic about my work	1	2	3	4	5	6	7
4. It bothers me when people are unpleasant at work	1	2	3	4	5	6	7
5. This organization has a great deal of personal meaning for me	1	2	3	4	5	6	7
6. Work should also be a place where you can make friends	1	2	3	4	5	6	7
7. I do not feel like "part of the family" at my organization	1	2	3	4	5	6	7
8. I feel fairly satisfied with my present job	1	2	3	4	5	6	7
9. I consider my job rather unpleasant	1	2	3	4	5	6	7
10. I do not feel a strong sense of belonging to my organization	1	2	3	4	5	6	7
11. Agreeable people make work more enjoyable	1	2	3	4	5	6	7
12. Within the past year I have often thought about quitting my job	1	2	3	4	5	6	7
13. I enjoy discussing my organization with people outside it	1	2	3	4	5	6	7
14. I think that I could easily become as attached to another organization as I am to this one	1	2	3	4	5	6	7
15. I don't care if I don't get along with my colleagues at work	1	2	3	4	5	6	7
16. I really feel as if this organization's problems are my own	1	2	3	4	5	6	7
17. Each day at work seems like it will never end	1	2	3	4	5	6	7
18. Having the opportunity to interact with friendly people at work is important to me	1	2	3	4	5	6	7
19. I would be very happy to spend the rest of my career with this organization	1	2	3	4	5	6	7
20. I find real enjoyment in my work	1	2	3	4	5	6	7
21. I do not feel "emotionally attached" to this organization	1	2	3	4	5	6	7

INSTRUCTIONS: The following items ask how you have been generally feeling. Use the response scale provided below to circle the number that corresponds to your response

During the past 12 months have you:

Response scale		
1 = Never		5 = Often
2 = Very rarely	4 = Sometimes	6 = Very often
3 = Rarely		7 = Always

1. been able to concentrate on whatever you're doing?	1	2	3	4	5	6	7
2. lost much sleep over worry?	1	2	3	4	5	6	7
3. felt that you are playing a useful part in things?	1	2	3	4	5	6	7
4. felt capable of making decisions about things?	1	2	3	4	5	6	7
5. felt constantly under strain?	1	2	3	4	5	6	7
6. felt you couldn't overcome your difficulties?	1	2	3	4	5	6	7
7. been able to enjoy normal day-to-day activities?	1	2	3	4	5	6	7
8. been able to face up to problems?	1	2	3	4	5	6	7
9. been feeling unhappy and depressed?	1	2	3	4	5	6	7
10. been losing confidence in yourself?	1	2	3	4	5	6	7
11. been thinking of yourself as a worthless person?	1	2	3	4	5	6	7
12. been feeling reasonably happy, all things considered?	1	2	3	4	5	6	7

Workplace Experiences Survey
Section 4 continued

INSTRUCTIONS: The following items refer to different behaviours you may have displayed at work. Use the response scale provided below to circle the number that corresponds to your response.

How often have you acted in the following ways at work during the past 12 months?

Response scale		
1 = Never		5 = Often
2 = Very rarely	4 = Sometimes	6 = Very often
3 = Rarely		7 = Always

1. Helped others who have been absent	1	2	3	4	5	6	7
2. Volunteered for things that are not required	1	2	3	4	5	6	7
3. Oriented new people even thought it is not required	1	2	3	4	5	6	7
4. Helped others who have a heavy workloads	1	2	3	4	5	6	7
5. Assisted a supervisor with his or her work	1	2	3	4	5	6	7
6. Made innovative suggestions to improve department	1	2	3	4	5	6	7
7. Attended functions not required but that help the company image	1	2	3	4	5	6	7
8. Was punctual	1	2	3	4	5	6	7
9. Took undeserved breaks	1	2	3	4	5	6	7
10. Attendance at work was above the norm	1	2	3	4	5	6	7
11. Coasted toward the end of the day	1	2	3	4	5	6	7
12. Gave advance notice if unable to come to work	1	2	3	4	5	6	7
13. Spent a great deal of time with personal phone conversations	1	2	3	4	5	6	7
14. Did not take unnecessary time off work	1	2	3	4	5	6	7
15. Did not take extra breaks	1	2	3	4	5	6	7
16. Did not spend time in idle conversation	1	2	3	4	5	6	7
17. Helped others who have been absent	1	2	3	4	5	6	7

INSTRUCTIONS: The following items refer to treatment you may have received at work. Use the response scale provided below to circle the number that corresponds to your response.

In general, to what extent have people you worked with (including any boss, supervisor, or co-worker) done the following:

Response scale		
1 = To a very small extent	3 = Somewhat	4 = To a large extent
2 = To a small extent		5 = To a very large extent

1. Treated you with dignity?	1	2	3	4	5
2. Treated you with respect?	1	2	3	4	5
3. Refrained from making improper remarks or comments?	1	2	3	4	5
4. Acted inconsiderately towards you?	1	2	3	4	5
5. Treated you kindly?	1	2	3	4	5
6. Treated you with sensitivity?	1	2	3	4	5
7. Respected your rights?	1	2	3	4	5

INSTRUCTIONS: Please answer the following questions which ask about the extent to which specific groups of people have acted in certain ways towards you. Use the response scale provided below to circle the number that corresponds to your response

---

Response scale		
0 = Don't have any such person	1 = Not at all 2 = A little	3 = Somewhat 4 = Very much

1. **How much has each of these people gone out of their way to do things to make your work life easier for you?**

Your immediate supervisor	0	1	2	3	4
Other people at work in your department/business unit	0	1	2	3	4
Your wife/husband/partner, friends and relatives	0	1	2	3	4
Your union representatives	0	1	2	3	4

2. **How easy has it been to talk with each of the following people?**

Your immediate supervisor	0	1	2	3	4
Other people at work in your department/business unit	0	1	2	3	4
Your wife/husband/partner, friends and relatives	0	1	2	3	4
Your union representatives	0	1	2	3	4

3. **How much have you been able to rely on each of these people when things have gotten though at work?**

Your immediate supervisor	0	1	2	3	4
Other people at work in your department/business unit	0	1	2	3	4
Your wife/husband/partner, friends and relatives	0	1	2	3	4
Your union representatives	0	1	2	3	4

4. **How much has each of the following people been willing to listen to your personal problems?**

Your immediate supervisor	0	1	2	3	4
Other people at work in your department/business unit	0	1	2	3	4
Your wife/husband/partner, friends and relatives	0	1	2	3	4
Your union representatives	0	1	2	3	4

INSTRUCTIONS: The following items refer to attitudes you may hold about yourself. Use the response scale provided below to circle the number that corresponds to your response

---

To what extent do you agree with the following statements?

Response scale		
1 = Strongly Disagree		5 = Somewhat Agree
2 = Disagree	4 = Neutral	6 = Agree
3 = Somewhat Disagree		7 = Strongly Agree

1. Even when I'm feeling self-confident about most things, I still seem to lack the ability to control social-situations	1	2	3	4	5	6	7
2. I have no trouble making and keeping friends	1	2	3	4	5	6	7
3. I'm not good at guiding the course of a conversation with several others	1	2	3	4	5	6	7
4. If there's someone I want to meet I can usually arrange it	1	2	3	4	5	6	7
5. In attempting to smooth over a disagreement I usually make it worse	1	2	3	4	5	6	7
6. I find it easy to play an important part in most group situations	1	2	3	4	5	6	7
7. I can effectively handle disputes I have with others	1	2	3	4	5	6	7
8. In social situations, it is usually clear to me exactly what to say and do	1	2	3	4	5	6	7
9. I don't deal well with conflict	1	2	3	4	5	6	7

INSTRUCTIONS: The following items refer to specific experiences you may have had at work. Use the response scale provided below to circle the number that corresponds to your response

---

During the past 12 months, how often has someone you worked with (including any boss, supervisor, or co-worker) treated you in the following way at work?

Response scale		
1 = Never	4 = Several times	7 = Several times per week
2 = Once	5 = Monthly	8 = Daily
3 = A few times	6 = Once per week	9 = Several times per day

1.	Reminded you of your errors and mistakes	1	2	3	4	5	6	7	8	9
2.	Did something that physically harmed you (e.g., hit you, pushed you, grabbed you, threw something at you, etc)	1	2	3	4	5	6	7	8	9
3.	Interrupted or cut you off while you were speaking	1	2	3	4	5	6	7	8	9
4.	Told you that they did not care for your opinions or views	1	2	3	4	5	6	7	8	9
5.	Took credit for your work or ideas	1	2	3	4	5	6	7	8	9
6.	Talked about you behind your back or made false allegations about you	1	2	3	4	5	6	7	8	9
7.	Withheld information from you	1	2	3	4	5	6	7	8	9
8.	Said they would make your life difficult	1	2	3	4	5	6	7	8	9
9.	Physically isolated you from others	1	2	3	4	5	6	7	8	9
10.	Slammed a door in your face	1	2	3	4	5	6	7	8	9
11.	Lied to you or gave you misleading information	1	2	3	4	5	6	7	8	9
12.	Withheld resources (e.g., supplies, equipment) you needed to do your job	1	2	3	4	5	6	7	8	9
13.	Excluded you from social events	1	2	3	4	5	6	7	8	9
14.	Yelled or raised their voice at you	1	2	3	4	5	6	7	8	9
15.	Swore at you	1	2	3	4	5	6	7	8	9
16.	Damaged or stole your personal property	1	2	3	4	5	6	7	8	9
17.	Gave you tasks with targets or deadlines that you could not meet	1	2	3	4	5	6	7	8	9

Workplace Experiences Survey
Section 8 continued

Response scale		
1 = Never	4 = Several times	7 = Several times per week
2 = Once	5 = Monthly	8 = Daily
3 = A few times	6 = Once per week	9 = Several times per day

18. Told others about your negative behaviour or "whistle-blowed" on you	1	2	3	4	5	6	7	8	9
19. Asked you to do work which really wasn't part of your job	1	2	3	4	5	6	7	8	9
20. Told you that your work or your effort did not meet required standards without providing positive suggestions for improvement	1	2	3	4	5	6	7	8	9
21. Told you to change your opinions or beliefs	1	2	3	4	5	6	7	8	9
22. Reprimanded you in front of others	1	2	3	4	5	6	7	8	9
23. Excluded you from meetings or other work related activities	1	2	3	4	5	6	7	8	9
24. Told you what to do or how to spend your time outside of work	1	2	3	4	5	6	7	8	9
25. Made threats against you	1	2	3	4	5	6	7	8	9
26. Removed areas of responsibility or work tasks that are important to you	1	2	3	4	5	6	7	8	9
27. Told you that they disapproved of a personal aspect of you or your life (e.g., your beliefs, actions, life style, etc)	1	2	3	4	5	6	7	8	9
28. Said you should quit your job or that they wished you worked elsewhere	1	2	3	4	5	6	7	8	9
29. Gave you a workload you could not manage	1	2	3	4	5	6	7	8	9
30. Avoided being near you or communicating with you	1	2	3	4	5	6	7	8	9
31. Said you should not claim something which by right you are entitled to (e.g., sick leave, holiday entitlement, travel expenses, etc)	1	2	3	4	5	6	7	8	9
32. Did something that disrupted or interfered with your work	1	2	3	4	5	6	7	8	9

INSTRUCTIONS: The following items refer to conditions within your department or business unit at work. Use the response scale provided below to circle the number that corresponds to your response

---

To what extent do you agree with the following statements?

Response scale		
1 = Strongly Disagree		5 = Somewhat Agree
2 = Disagree	4 = Neutral	6 = Agree
3 = Somewhat Disagree		7 = Strongly Agree

1. Using coarse language in not considered a big deal in my department	1	2	3	4	5	6	7
2. In my department, when an employee complains about being mistreated by others it is taken very seriously	1	2	3	4	5	6	7
3. Disrespectful behaviour is not tolerated in my department	1	2	3	4	5	6	7
4. There are generally no serious consequences for crude behaviour in my department	1	2	3	4	5	6	7
5. New employees learn that rough or offensive behaviour is typical in my department	1	2	3	4	5	6	7
6. People who harass others in my department would probably be disciplined (e.g., by suspensions, or by loss of promotions opportunities, and so forth)	1	2	3	4	5	6	7
7. Outsiders would probably think that people are ill-mannered in my department, but that is just a part of how things are done here	1	2	3	4	5	6	7
8. In my department, everyone is expected to treat one-another with the utmost sensitivity and consideration	1	2	3	4	5	6	7

INSTRUCTIONS: The following items refer to moods you may experience. Use the response scale provided below to circle the number that corresponds to your response

---

In general, that is, on the average to what extent do you feel:

Response scale		
1 = Very slightly or not at all 2 = A little	3 = Moderately	4 = Quite a bit 5 = Extremely

1.	Scared	1	2	3	4	5
2.	Upset	1	2	3	4	5
3.	Nervous	1	2	3	4	5
4.	Guilty	1	2	3	4	5
5.	Hostile	1	2	3	4	5
6.	Afraid	1	2	3	4	5
7.	Distressed	1	2	3	4	5
8.	Jittery	1	2	3	4	5
9.	Ashamed	1	2	3	4	5
10.	Irritable	1	2	3	4	5

Workplace Experiences Survey

INSTRUCTIONS: Please complete the following questions about yourself.

All your responses will remain confidential and you may refrain from answering any questions you prefer not to answer.

---

1. What is your gender?   _____Male   _____Female (please check one)

2. What is your age? _____less than 20   _____40-49   (please check one)
    _____20-29   _____50-59
    _____30-39   _____60 +

3. Which of the following **best** describes your ethnic background? (please check only one)

    _____Aboriginal / Native   _____Hispanic
    _____Asian   _____Middle Eastern
    _____Black   _____White
    _____East Indian   Other (write your answer): _____

4. What is the highest level of education you have achieved? (please check one)

    _____Did not complete high school   _____Bachelor's degree or equivalent
    _____High school diploma or equivalent   _____Master's degree or equivalent
    _____Two-year college degree or equivalent _____Doctoral degree or equivalent

5. If there are any comments that you would like to make about your working conditions, including how other people treat you at work please feel free to do so below.

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

You have completed the Workplace Experiences Survey.

Thank you for your participation! Your feedback is extremely valuable. Please seal and send the survey in the addressed and stamped envelop provided.

The purpose of this survey was to learn about relationships between various potentially negative workplace experiences and employee attitudes.

If you are interested in viewing the results of this survey, they will be posted at www.arts.uwaterloo.ca/~mderayeh/workplace/results. We expect the results will be available for viewing by April, 2006. If we anticipate this date to change, we will post a notification at the same website. You may also request a paper copy of the study results from the investigators using the contact information presented below.

You may also be assured that your responses will remain completely confidential. Only the University researchers will have access to the original data. Survey results will be presented in summarized fashion such that no individual can be identified.

If you have any general comments or questions related to this study feel free to contact us.

Mehrdad Derayeh, MA   John Michela, PhD
PhD Student   Associate Professor
University of Waterloo   University of Waterloo
(519) 888-4567 ext.: 2164   (519) 888-4567 ext.: 3786
mderayeh@watarts.uwaterloo.ca   jmichela@watarts.uwaterloo.ca

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We would like to assure you that this study has been reviewed by, and received ethics clearance through, the Office of Research Ethics. If you have any concerns regarding your participation in this study, please contact Dr. Susan Sykes, Director, Office of Research Ethics at ssykes@uwaterloo.ca or (519) 888-4567 Ext. 6005.

APPENDIX D

Recruitment Poster

Employee Survey

Researchers from the Department of Psychology of the University of Waterloo and ▮▮▮ union locals ▮▮▮▮▮▮▮ are looking for volunteers to take part in a survey of employees' workplace experiences and attitudes. All employees are invited to participate.

Why participate?

Because we value your opinions!

An important first step in improving workplaces is to find out what's on the minds of workers. And what better way to learn about workers' workplace experiences, thoughts, and concerns than through an employee survey?

How do I participate?

The survey is available online and in paper copy. For more information or to participate in the survey please visit this website:

https://arts.uwaterloo.ca/~mderayeh/workplace

A link to this site is available through CAW Union Local ▮▮▮ or Local ▮▮▮ websites shown below.

A **paper copy** of the survey can be obtained from:

Mehrdad Derayeh
University of Waterloo
519-888-4567 ext. 3786
E-mail: mderayeh@uwaterloo.ca

This project has been reviewed and has received ethics clearance through the Office of Research Ethics at the University of Waterloo. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Susan Sykes by e-mail at ssykes@uwaterloo.ca or at (519) 888-4567,

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APPENDIX E

Study Two Measures

Interpersonal Workplace Events Scale

The following items refer to specific experiences you may have had at work. During the past 12 months, how often has someone you worked with (including any boss, supervisor, or co-worker) treated you in the following way at work?

1. Reminded you of your errors and mistakes
2. Did something that physically harmed you (e.g., hit you, pushed you, grabbed you, threw something at you, etc)
3. Interrupted or cut you off while you were speaking
4. Told you that they did not care for your opinions or views
5. Took credit for your work or ideas
6. Talked about you behind your back or made false allegations about you
7. Withheld information from you
8. Said they would make your life difficult
9. Physically isolated you from others
10. Slammed a door in your face
11. Lied to you or gave you misleading information
12. Withheld resources (e.g., supplies, equipment) you needed to do your job
13. Excluded you from social events
14. Yelled or raised their voice at you
15. Swore at you
16. Damaged or stole your personal property
17. Gave you tasks with targets or deadlines that you could not meet
18. Told others about your negative behaviour or "whistle-blowed" on you
19. Asked you to do work which really wasn't part of your job
20. Told you that your work or your effort did not meet required standards without providing positive suggestions for improvement
21. Told you to change your opinions or beliefs
22. Reprimanded you in front of others
23. Excluded you from meetings or other work related activities
24. Told you what to do or how to spend your time outside of work
25. Made threats against you

26. Removed areas of responsibility or work tasks that are important to you

27. Told you that they disapproved of a personal aspect of you or your life (e.g., your beliefs, actions, life style, etc)

28. Said you should quit your job or that they wished you worked elsewhere

29. Gave you a workload you could not manage

30. Avoided being near you or communicating with you

31. Said you should not claim something which by right you are entitled to (e.g., sick leave, holiday entitlement, travel expenses, etc)

32. Did something that disrupted or interfered with your work

Response scale:

Never, once, a few times, several times, monthly, once per week, several time per week, daily, several times per day

Adapted from:

Cortina, L. M., Magley, V. J., Williams, J. H., & Langhout, R. D. (2001). Incivility in the workplace: Incidence and impact. *Journal of Occupational Health Psychology, 6*, 64–80.

Einarssen, S., & Raknes, B. I. (1997). Harassment in the workplace and the victimization of men. *Violence and Victims, 12*, 247–263.

Glomb, T. M. (2002). Workplace aggression: Informing conceptual models with data from specific encounters. *Journal of occupational health psychology, 7*, 20-36.

Hoel, H., Faragher, B, & Cooper, C. L. (2004). Bullying is detrimental to health, but all bullying behaviours are not necessarily equally damaging. British journal of guidance & counseling, 32, 367-387.

Keashly, L., Trott, V., & MacLean, L. M. (1994). Abusive behaviour in the workplace: A preliminary investigation. *Violence and victims, 9*, 341–357.

Quine, L. (2001). Workplace bullying in nurses. *Journal of health psychology, 6*, 73–84.

Rogers, K., & Kelloway, E. K. (1997). Violence at work: Personal and organizational outcomes. *Journalof occupational health psychology, 2*, 63-71.

Rospenda, K. M., & Richman, J. A. (2004). The factor structure of generalized workplace harassment. *Violence and victims, 19*, 211-237.

Saline, D. (2001). Prevalence and forms of bullying among business professionals: A comparison of two different strategies for measuring bullying. *European journal of work and organizational psychology, 10*, 425-441.

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of management journal, 43,* 178–190.

Interpersonal Injustice

The following items refer to general treatment you may have received at work. During the past 12 months, to what extent have people you worked with (including any boss, supervisor, or co-worker):

1. treated you with respect? [Reverse]

2. treated you in a polite manner? [Reverse]

3. treated you with dignity? [Reverse]

4. refrained from making improper remarks or comments? [Reverse]

5. acted inconsiderately towards you?

6. treated you kindly? [Reverse]

7. treated you with sensitivity? [Reverse]

8. respected your rights? [Reverse]

Response scale:
To a very small extent, to a small extent, somewhat, to a large extent, to a very large extent

Adapted from:

Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology, 86*, 386–400.

Heuer, L., Blumenthal, E., Douglas, A., & Weinblatt, T. (1999). A deservingness approach to respect as a relationally based fairness judgments. *Personality and Social Psychology Bulletin, 25*, 1279–1292.

Interpersonal Workplace Norms Scale

The following items refer to conditions within your department/business unit at work. To what extent do you agree with the following statements:

1. Using coarse language in not considered a big deal in my department/business unit

2. Disrespectful behaviour is not tolerated in my department/business unit [Reverse]

3. There are generally no serious consequences for crude behaviour in my department/business unit

4. In my department/business unit, when an employee complains about being mistreated by others it is taken very seriously [Reverse]

5. Employees know to expect rough or offensive behaviour in my department/business unit

6. People who harass others in my department/business unit would probably be disciplined (e.g., by suspensions, or by loss of promotions opportunities, and so forth) [Reverse]

7. Outsiders would probably think that people are ill-mannered in my department/business unit, but that is just a part of how things are done here

8. In my department/business unit, everyone is expected to treat one-another with the utmost sensitivity and consideration [Reverse]

Response scale:
Strongly disagree, disagree, somewhat disagree, neither agree nor disagree, somewhat agree, agree, strongly agree

Interpersonal Workplace Values Scale

The following items refer to attitudes you may hold about your workplace. To what extent do you agree with the following statements:

1. Having a positive social atmosphere at work is important to me.

2. It is important that my job gives me the opportunity to interact with friendly people.

3. It bothers me when people are unpleasant at work.

4. Work should also be a place where you can make friends.

5. Agreeable people make work more enjoyable.

6. It does not matter to me if I do not get along with my colleagues at work. [Reverse]

Response scale:
Strongly disagree, disagree, somewhat disagree, neither agree nor disagree, somewhat agree, agree, strongly agree

Negative Affectivity

The following items refer to moods you may experience. In general, that is, on the average to what extent do you feel:

1. scared
2. upset
3. nervous
4. guilty
5. hostile
6. afraid
7. distressed
8. jittery
9. ashamed
10. irritable

Response scale:
Very slightly or not at all, a little, moderately, quite a bit, extremely

Source:

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of personality and social psychology*, *54*, 1063-1070.

Social Support

The following questions ask the extent to which specific groups of people have acted in certain ways towards you during the past 12 months.

1. How much has each of these people gone out of their way to do things to make your work life easier for you?
    a. Your immediate supervisor
    b. Other people at work in your department/business unit
    c. Your wife or husband, friends and relatives
    d. Your union representatives

2. How easy has it been to talk with each of the following people?
    a. Your immediate supervisor
    b. Other people at work in your department/business unit
    c. Your wife or husband, friends and relatives
    d. Your union representatives

3. How much have you been able to rely on each of these people when things have gotten tough at work?
    a. Your immediate supervisor
    b. Other people at work in your department/business unit
    c. Your wife or husband, friends and relatives
    d. Your union representatives

4. How much has each of the following people been willing to listen to your personal problems?
    a. Your immediate supervisor
    b. Other people at work in your department/business unit
    c. Your wife or husband, friends and relatives
    d. Your union representatives

Response scale:
To a very small extent, to a small extent, somewhat, to a large extent, to a very large extent

Source:

Caplan, R. D., Cobb, S., French, J. R. P., Van Harrison, R., & Pinneau, S. R. (1980). *Job demands and worker health*. Ann Arbor: University of Michigan, Institute of Social Research.

Interpersonal Control

The following items refer to attitudes you may hold about yourself. To what extent do you agree with the following statements:

1. Even when I'm feeling self-confident about most things, I still seem to lack the ability to control social-situations. [Reverse]

2. I have no trouble making and keeping friends.

3. I'm not good at guiding the course of a conversation with several others. [Reverse]

4. If I need help in carrying off a plan of mine, it's usually difficult for me to get others to help. [Reverse]

5. If there's someone I want to meet I can usually arrange it.

6. In attempting to smooth over a disagreement I usually make it worse. [Reverse]

7. I find it easy to play an important part in most group situations. [Reverse]

8. I can effectively handle disputes I have with others.

9. I don't deal well with conflict. [Reverse]

Response scale:
Strongly disagree, disagree, somewhat disagree, neither agree nor disagree, somewhat agree, agree, strongly agree

Adapted from:

Paulhus, D. & Christie, R. (1981). Sphere of control: an interactionist approach to assessment of perceived control. In. H.M. Lefcourt (Ed.) *Research with the locus of control construct*. (Vol. 1, pp. 161-188). New York: Academic Press.

Job Satisfaction

The following items refer to attitudes you may hold about your work. To what extent do you agree with the following statements:

1. Most days I am enthusiastic about my work

2. I feel fairly satisfied with my present job

3. Each day at work seems like it will never end [Reverse]

4. I find real enjoyment in my work

5. I consider my job rather unpleasant [Reverse]

Response scale:
Strongly disagree, disagree, somewhat disagree, neither agree nor disagree, somewhat agree, agree, strongly agree

Source:

Brayfield, A. H., & Rothe, H. F. (1951). An index of job satisfaction. *Journal of Applied Psychology, 35,* 307–311.

Affective Commitment

The following items refer to attitudes you may hold about your work. To what extent do you agree with the following statements:

1. I would be very happy to spend the rest of my career with this organization.
2. I enjoy discussing my organization with people outside it.
3. I really feel as if this organization's problems are my own.
4. I think that I could easily become as attached to another organization as I am to this one. [Reverse]
5. I do not feel like "part of the family" at my organization. [Reverse]
6. I do not feel "emotionally attached" to this organization. [Reverse]
7. This organization has a great deal of personal meaning for me.
8. I do not feel a strong sense of belonging to my organization. [Reverse]

Response scale:
Strongly disagree, disagree, somewhat disagree, neither agree nor disagree, somewhat agree, agree, strongly agree

Source:

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology, 63*, 1–18.

Turnover Intentions

The following items refer to attitudes you may hold about your work. To what extent do you agree with the following statements:

1. Within the past year I have often thought about quitting my job
2. I have seriously considered leaving my current employer during the past year

Response scale:
Strongly disagree, disagree, somewhat disagree, neither agree nor disagree, somewhat agree, agree, strongly agree

General Health Questionnaire (GHQ-12)

The following items ask how you have been generally feeling. During the past 12 months have you:

1. been able to concentrate on whatever you're doing?
2. lost much sleep over worry?
3. felt that you are playing a useful part in things?
4. felt capable of making decisions about things?
5. felt constantly under strain?
6. felt you couldn't overcome your difficulties?
7. been able to enjoy normal day-to-day activities?
8. been able to face up to problems?
9. been feeling unhappy and depressed?
10. been losing confidence in yourself?
11. been thinking of yourself as a worthless person?
12. been feeling reasonably happy, all things considered?

Response scale:
Never, Very Rarely, Rarely, Sometimes, Often, Very Often, Always

Source:

Goldberg, D. P. (1972). *The detection of psychiatric illness by questionnaire*. Oxford University Press: London.

Demographic information

What is your gender?
- Male
- Female

What is your age?
_____ years

Which of the following best describes your ethnic background?
- African American
- Asian American
- Caucasian
- Native American
- Other (please specify) _____

What is the highest level of education you have achieved?
- Did not complete high school
- High school diploma or equivalent
- Two-year college degree or equivalent
- Bachelor's degree or equivalent
- Master's degree or equivalent
- Doctoral degree or equivalent

Who is your current employer?
_____

How long have you been working at your present organization?
_____ years _____ months

In which department or business unit do your work in?
_____

How long have you been working within your present department or business unit?
_____ years _____ months

What is your bargaining unit (unionization) status?
- Bargaining Unit (unionized)
- Non-Bargaining Unit (non-unionized)

If Bargaining Unit (unionized), how long have you been a member of the union?
_____ years _____ months

During the past 12 months what has been your employment status:
- Permanent, part-time
- Permanent, full-time
- Temporary, part-time
- Temporary, full-time

What is the level of your supervisory responsibility?
- No supervisory responsibility
- First line supervisor/team leader
- Manager
- Executive

How long have you been working at your present job within this organization?
_____ years _____ months

APPENDIX F

Interpersonal Workplace Events Scale Validation Study

(begins on next page)

Instructions

The items starting on page 6 describe interpersonal events people might experience at work. The items do NOT ask about whether the reader has witnessed the events, they asked whether they have been the target of such events.

In reading through the list of events, you may notice that certain items appear to be redundant. The reason we have items describing similar events but with slightly different wording is that we are interested in the nuances or specific ways these events are described in each item. We will be asking you about these nuances. For this reason, it is important that you read each item <u>very carefully</u> as a single word may influence the meaning of an item. You will be asked to judge these items along three different dimensions. After having read an item, make the three required judgments about the item and then move on to the next item. Feel free to read an item or the 3 judgments you are asked to make about the items as many times as required to be able to make your response.

Before you begin please carefully read through the three examples presented on the next pages. These examples illustrate your task.

If you have any questions feel free to contact Mehrdad Derayeh at the following e-mail address: mderayeh@watarts.uwaterloo.ca

Thank you for your participation!

Judgments about items

1. **To what extent does the wording of the item imply how the event was interpreted or experienced by the target?**

(Note: a given event may be interpreted in many different ways by different people. We are interested in knowing whether or not the item states how the event was interpreted or experienced by the target or whether the event is described in such a way as to be devoid of interpretation)

2. **To what extent does the wording of the item imply that the event was perceived by the target as being unpleasant or otherwise aversive?**

(<u>Note</u>: we are NOT interested in whether YOU would consider the event described as being unpleasant or otherwise aversive. Rather, we want to know whether <u>the wording of the item</u> states that the event was experienced in one of these ways by the target)

3. **To what extent does the wording of the item imply that the event was perceived by the target as being disrespectful, mean, insensitive, or unfair?**

(<u>Note</u>: we are NOT interested in whether YOU would consider the event described as being disrespectful, mean, insensitive, or unfair. Rather, we want to know whether <u>the wording of the item</u> states that the event was experienced in one of these ways by the target)

Use the following rating scale to record your responses:

    1 = Not at all or to a very small extent
    2 = To a small extent
    3 = To a moderate extent
    4 = To a great extent
    5 = To a very great extent

Example 1

Sample item 1	Judgment 1 rating (1-5)	Judgment 2 rating (1-5)	Judgment 3 rating (1-5)
Offensive remarks about you or your private life			

The first step is to carefully read the item. Next you make the three judgments, starting with judgment 1.

Judgment 1: To what extent does the wording of the item imply how the event was interpreted or experienced by the target?

Here the event is about receiving remarks. Because the item specifies that these remarks were offensive, it is clear that the target experienced the remarks or interpreted the remarks in a particular way (i.e., they interpreted them as being offensive). For this reason, a rating of 4 or 5 for the first item seems appropriate (indicating the wording of the item implies how the event was experienced to a great or very great extent). If the item read "received remarks about you", there would be very little if any interpretation of the event. The only possible interpretation might be that the remarks that were made concerned the individual (i.e., because of the wording "about you") as opposed to something else. Thus, a rating of 1 or 2 might be appropriate for that wording (indicating little to no interpretation implied by the item's wording). Having made the first judgment about the first item we now move on to judgment 2.

Judgment 2: To what extent does the wording of the item imply that the event was perceived by the target as being unpleasant or otherwise aversive?

We have already judged that the wording implied that the event was interpreted in a certain fashion, namely as offensive. The use of the word offensive implies an inherent aversiveness. Saying it was offensive implies it was unpleasant. Thus, a rating of 4 might be appropriate. What if we replaced the word offensive with "objectionable"? This wording is not as strong, thus a rating less than 4 may been more appropriate. If instead the wording was "hateful" a rating of 5 might be appropriate because this is a stronger word.

Judgment 3: To what extent does the wording of the item imply that the event was perceived by the target as being disrespectful, mean, insensitive, or unfair?

Again, inherent in the use of the term offensive is an interpretation that the event was perceived as disrespectful or insensitive (e.g., to say that something is offensive means it was disrespectful or insensitive). Thus, a rating of 4 or 5 would seem appropriate. If the word had been "unsolicited" there would be little to no indication of whether the remark was mean, implying a low rating (e.g., 1-2).

Example 2

Sample item 2	Judgment 1 rating (1-5)	Judgment 2 rating (1-5)	Judgment 3 rating (1-5)
My supervisor screamed at me			

Judgment 1: To what extent does the wording of the item imply how the event was interpreted or experienced by the target?

The event is specified to some degree in that it describes some sort of communication. However, the wording "screamed at" in the item implies the target experienced or interpreted the communication as "screaming." Some other item about the same communication could imply less interpretation, e.g., "My supervisor corrected me in a loud voice." Consequently, a rating of 4 seems appropriate for sample item 2 (however you may feel the wording implies more or less interpretation, thus a rating of 3 or 5 might also be okay).

Judgment 2: To what extent does the wording of the item imply that the event was perceived by the target as being unpleasant or otherwise aversive?

While you might think that being screamed at is an unpleasant experience, the second judgment is about whether the wording of the item itself implies it was perceived as unpleasant, not whether <u>you</u> would consider it unpleasant. It is possible that for some people or that in certain circumstances, being screamed at would not be unpleasant. However, while it may appear that the item does not mention whether the event was unpleasant to the target, one could argue that the use of the word "scream" implies at least a little inherent unpleasantness (otherwise why not use the word "loud"). In this sense, the word scream is somewhat loaded. Consequently, a rating of 2 (or 3) seems appropriate for judgment 2. If it the item read "My supervisor corrected me in a loud voice", a lower rating might be more appropriate because there is less implied unpleasantness.

Judgment 3: To what extent does the wording of the item imply that the event was perceived by the target as being disrespectful, mean, insensitive, or unfair?

Again, while you might think that screaming is mean or insensitive, the item itself does not say whether it was experienced as such. Maybe you deserved to be screamed at or maybe it was meant to warn you of some danger. Still the word "scream" has a certain strong connotation to it. Consequently, a rating of 2 (or 3) would seem appropriate. If the words "raised their voice" were used, the connotation would seem weaker and less inherently insensitive. In this case, a lower rating might be appropriate.

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Example 3

Sample item 3	Judgment 1 rating (1-5)	Judgment 2 rating (1-5)	Judgment 3 rating (1-5)
I was told my suggestion would not be used			

Judgment 1: To what extent does the wording of the item imply how the event was interpreted or experienced by the target?

Here the event is about being told something, namely that one's ideas will not be used. How was this experienced or interpreted by the target? The wording does not specify this. All we know from the item is that someone said something. We don't know how this was interpreted. Consequently, a rating of 1 seems appropriate here. What if the item had read "My ideas were discarded"? The word discarded may imply that the ideas were never really given fair consideration, they were just rejected. But how does the target know for sure that this is what happened? Some interpretation may be happening to come to that conclusion. Consequently, for this wording a higher rating (e.g., 2 or 3) might be more appropriate.

Judgment 2: To what extent does the wording of the item imply that the event was perceived by the target as being unpleasant or otherwise aversive?

We have just judged that the wording of sample item 3 does not specify how the event was experienced (i.e., we said that a score of 1 is appropriate for judgment 1). Consistent with this, the item does not describe whether the event was experienced as being unpleasant. You might find this event unpleasant but the item does not specify that it was experienced that way by the target. Also, the wording contains no loaded words that would indicate that what happened was unpleasant. Thus, a rating of 1 seems appropriate.

Judgment 3: To what extent does the wording of the item imply that the event was perceived by the target as being disrespectful, mean, insensitive, or unfair?

You might think that being told your ideas are unwanted is mean but the item itself does not specify whether the target felt that way. Consequently, a rating of 1 seems appropriate. What if the wording was: "Unjustly rejected my ideas". Here the wording clearly specifies the target felt the event was unfair (i.e., because of the word "unjustly") making a high rating (e.g., 5) appropriate.

You may now begin the task on the next page.

Item	Judgment 1 rating (1-5)	Judgment 2 rating (1-5)	Judgment 3 rating (1-5)
Sworn at			
Told my feelings unimportant			
made negative comments about your personality?			
Physical abuse or threats of physical abuse			
Said they would make your life difficult			
Damaged or stole your personal property			
excluded you from important work activities or meetings?			
Belittling your opinions in front of others			
Talking behind your back			
Ridicule or insulting teasing			
Target of tantrums			
Ignored or excluded you from professional camaraderie?			
Withholding information from you			
Being deprived of responsibility or work tasks			
Made unwanted attempts to draw you into a discussion of personal matters?			
Accused of deliberate error			
offered you a subtle or obvious bribe to do something that you did not agree with?			
Withheld important information from you			
Have you been hit, kicked, grabbed, shoved, or pushed by anyone while you've been at work?			
Have you been sworn at while you've been at work?			
Told you what to do or how to spend your time outside of work			
Unreasonable refusal of applications for leave, training or promotion			
Threats of making your life difficult (e.g., overtime, unpopular tasks)			
treated you or evaluated you as though you were less good at your work than you really are?			
my boss tells me I am incompetent			

Used an angry tone of voice (to you)			
Lied to you or gave you misleading information			
Excluded you from social events			
my boss tells me my thought or feelings are stupid			
Interrupting or "cutting you off" while speaking			
Asked you to do work which really wasn't part of your job			
Slammed a door in your face			
Gave you tasks with targets or deadlines that you could not meet			
Interrupted or cut you off while you were speaking			
Persistent attempts to humiliate you in front of colleagues			
Physically assaulting you			
Gave you a workload you could not manage			
Neglecting your opinion or views			
Told you that they did not care for your opinions or views			
Being the subject of excessive teasing and sarcasm			
hit you physically?			
Made demeaning or derogatory remarks to you?			
Intimidatory use of discipline/competence procedures			
Silence or hostility as a response to your questions or attempts at conversations			
swore at you?			
Subject to angry outburst			
Flaunting status or power over you			
Removed areas of responsibility or work tasks that are important to you			
Denied raise without reason			
Swore at you			
Humiliated or belittle you in front of others?			
Took credit for your work or ideas			
Swearing at you			

Told you that they disapproved of a personal aspect of you or your life (e.g., your beliefs, actions, life style, etc)			
my boss reminds me of my past mistakes and failures			
treated you unfairly compared to others in your position same position (e.g., in terms of tasks or assignments, salary, promotions, resources, reprimands)?			
Making you look bad			
Damaging property			
tried to control your nonwork related time or activities?			
Yelled or raised their voice at you			
Reactions from others because you work too hard			
Persistent attempts to belittle and undermine your work			
Belittled intellectually			
Reprimanded you in front of others			
Pressure not to claim something which by right you are entitled to (e.g., sickleave, holiday entitlement, travel expenses)			
Undermining your personal integrity			
Criticized for taking initiative			
Constant undervaluing of your efforts			
ignored you or your work contributions?			
Talked to sarcastically			
Devaluing your "rights" and opinions with reference to your age			
Destructive innuendo and sarcasm			
made negative comments to you about your intelligence, competence, or productivity?			
Told incompetent			
Insulting or criticizing you (including sarcasm)			
You are given tasks with unreasonable or impossible targets or deadlines			
Reminded you of your errors and mistakes			
Verbal abuse			
Your work is excessively monitored			

Did something that physically harmed you (e.g., hit you, pushed you, grabbed you, threw something at you, etc).			
threw something at you?			
Said you should not claim something which by right you are entitled to (e.g., sick leave, holiday entitlement, travel expenses, etc)			
Credit for work given to other			
Said you should quit your job or that they wished you worked elsewhere			
Told you that your work or your effort did not meet required standards without providing positive suggestions for improvement			
Excluded you from meetings or other work related activities			
Given the silent treatment			
Making inappropriate jokes about you			
my boss blames me to save himself/herself embarrassment			
Accused of wrong doing			
my boss is rude to me			
yelled or screamed at you?			
Told others about your negative behaviour or "whistle-blowed" on you			
made hostile or offensive gestures at you?			
Avoided being near you or communicating with you			
Physically isolated you from others			
Told you to change your opinions or beliefs			
Did something that disrupted or interfered with your work			
my boss expresses anger at me when he/she is mad for another reason			
Social exclusion from co-workers or work group activities			
expected less of you than others in your position?			
my boss puts me down in front of others			
Making angry gestures (e.g., pounding fist, rolling eyes)			
Put you down or was condescending to you?			

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Made threats against you			
Pushed or grabbed			
Removal of areas of responsibility without consultation			
Talked about you behind your back or made false allegations about you			
Spreading rumors			
Withholding necessary information from you			
Rumors spread about me			
Withheld resources (e.g., supplies, equipment) you needed to do your job			

You have completed all items, thank you for your participation!

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