

An investigation of the impact of abusive supervision on technology end-users

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Abstract

Although they are likely to occur in many organizations, few research efforts have examined the impact of negative supervisor behaviors on technology end-users. In this study we investigate abusive supervision, and the effects it has on perceptions about the work and psychological, attitudinal, and behavioral intention outcomes. Our sample consisted of 225 technology end-users from a large variety of organizations. Results revealed that abusive supervision has a positive impact on perceived pressure to produce, time pressure, and work overload, and a negative impact on liking computer work, and ultimately these variables impact job strain, frustration, turnover intentions, and job satisfaction.

KEYWORDS: abusive supervision, computer workers, job strain, turnover intentions, frustration

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Employees in all business functional areas, including information systems, have experienced a supervisor giving his or her subordinates the silent treatment, publicly ridiculing them or being rude towards them, expressing anger at them when they are not the source of the anger, or making negative comments about them to others. Unsurprisingly, these abusive behaviors are likely to have considerable negative effects for the subordinates experiencing them [61]. Making these behaviors all the more detrimental is the fact that supervisors are often viewed as one of, if not the most important relationships an employee has in the workplace [44]. Extant research in the management information systems arena has highlighted the importance of supervisors and supervisor-subordinate relationships in a number of areas including IT adoption [41], information systems success, career satisfaction for information systems employees [31], managing project expectations [29], communication within the IT department [36], and overall career satisfaction [42]. However, this research has focused almost exclusively on positive supervisor behaviors. Recently, attention has started being given toward understanding the impacts of negative exchanges and the overall “dark side” of managerial behavior in organizations. In this study we focus on one type of negative behavior, abusive supervision, a topic that has received increased attention of late [61] but, to our knowledge, has not yet been examined in the management information systems field.

Abusive supervision refers to “subordinates’ perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact” [60, p. 178]. Some examples of abusive supervision are those behaviors (i.e., public ridiculing, the silent treatment) mentioned in our opening sentence (question). Though many of the factors explored in this study can be easily applied to workers in other fields, we believe they have additional bearing on employees who are the end-users of technology. Previous surveys of managers and meta-analyses of turnover for technology end-users have indicated that attracting, developing, and retaining competent workers is a high priority and a constant source of concern [33, 40]. Given that, any additional insight concerning employees’ attitudes, turnover rates, and how best to maintain a satisfied staff of technology end-users can be of value for managers [46]. To our knowledge, the influence of an abusive supervisor on end-users has yet to be investigated.

In terms of its effects, abusive supervision is likely to manifest itself in a number of different ways that are unique to employees who complete the majority of their work on computers. Based on multiple conceptual frameworks including the conservation of resources theory [25, 26] and the transactional model of stress and coping [37], we believe that, for technology end-users, abusive supervision is likely to lead to increased pressure to produce, time pressure, and perceptions of work overload, as well as a decrease in liking the computer work that they perform. Then, these four reactions to abusive supervision will be associated with increased negative psychological, attitudinal, and behavioral-intention outcomes. In this study, we specifically examine the individual level outcomes of job strains and frustration (psychological consequences), job satisfaction (an attitude), and turnover intentions (an intended behavior).

This research effort makes a contribution to the existing research by extending the work of Ferratt and colleagues [17] and [18] by investigating abusive supervision, a negative relationship behavior, and its impact on end-users of technology. In particular, this study (a)

examines abusive supervision in the MIS field, something that has not yet happened, (b) expands the nomological network related to abusive supervision by probing its impact on end-users, and (c) shows both immediate and ultimate consequences that are influenced from abusive supervision. We examined these research questions in a sample of 225 employees, all of whom worked at least 25 hours per week on a computer, with their work ranging from information system development and implementation to the primary system users. These individuals came from a wide range of industries and organizations, which helps in our confidence concerning the generalizability of our results. Practical implications, limitations, and directions for future research are offered.

ABUSIVE SUPERVISION

As already mentioned, abusive supervision refers to subordinate perceptions of sustained displays of supervisor hostile nonverbal and verbal behaviors, excluding physical contact. A few aspects of abusive supervision should be mentioned in more detail. First, abusive supervision is based on subordinate perceptions, so one employee's view of his/her supervisor's behaviors might be very different from another. Second, abusive supervision refers to a sustained display of these kinds of behaviors. Thus, if a supervisor merely lashes out at employees during a bad day, it would not be considered abuse as the behavior would need to be more prolonged and repeated over time. Third, abusive supervision refers to hostile nonverbal and verbal behaviors. Accordingly, abusive supervisors are different from demanding, tough, controlling, or "all-business, no-play" bosses.

Abusive supervision is also likely to be associated with negative consequences because of a few unique aspects or dynamics of this type of behavior. As abusive supervision refers to negative supervisor behaviors that exclude physical contact, it is likely to continue and have more long-lasting, insidious effects. More specifically, if a supervisor physically struck an employee, that type of behavior would likely be addressed immediately. However, with abusive supervision, it is less likely than a subordinate will tell human resources or a supervisor's superior about being treated rudely or given the silent treatment. Thus, abusive supervision often continues unaddressed at the workplace. Another reason this form of abuse is especially problematic is due to the inherent power differences of a supervisor and a subordinate [60, 61]. Research has suggested that one of the primary motivations underlying the abuse is the supervisor's need to display his or her power over subordinates by reducing their control over their own work processes and the job environment [7]. Considering that supervisors primarily control rewards, roles, and work assignments for their subordinates [72], there is ample opportunity to single out individual employees, or even entire work groups and departments, for abuse. We believe this motivation will be particularly relevant to the relationships explored in this study. The power difference between a supervisor and subordinates also has consequences for reporting any abuse to organizational outlets (e.g., human resources). Although subordinates do not enjoy abusive supervision, it is often difficult to tell someone about it. Instead, subordinates may hesitate to tell people because of the supervisor's status in the company, they may think that no one will believe their story, and/or they may be economically dependent on that job and do not want to risk their job to report a supervisor being rude to them. For these reasons and others, abusive supervision is likely to be long-lasting and has been linked to a number of dysfunctional consequences including decreased in-role and extra-role performance, and increased stress and workplace deviance [6, 22, 60, 61, 73].

While the influence of abusive supervision has not been specifically explored, previous research has demonstrated the importance of the supervisor for IT workers. Much of what we know about the IT supervisor-subordinate relationship originates with the work of Ferratt and colleagues. Much like non-computer workers, technology end-users appreciate a work-unit climate in which managers and supervisors are trustworthy and attend to their interpersonal relationships with subordinates in a supportive manner [17]. When later determining supervisor behaviors associated with attending to relationships with subordinates, Ferratt et al. [18] identified behaviors such as effectively disseminating information, allowing for upward communication, setting a positive example in the workplace, and providing recognition and praise, among others. Subsequent work indicates that supervisory satisfaction can serve as a source of intrinsic motivation for computer workers, influencing employees' feelings related to task processes and performance to the point that the work can become the most important job-related factor for workers [63]. More recently, studies of IT workers have found that a supportive supervisor can help encourage liking of computer work, even among workers who did not particularly care for computer work beforehand and decrease turnover intentions [23]. Finally, there is evidence that the computer work itself is a significant hygiene factor that challenges and stimulates workers, further increasing the chances for positive outcomes like job satisfaction, involvement, and organizational commitment [14, 30, 70]. In short, the computer worker-related benefits stemming from supportive supervision is thus well-established, but as mentioned earlier, the consequences of abusive supervision has not been. This leads to the general research question investigated by this study related to how abusive supervision impacts immediate outcomes (perceived pressure and work overload) as well as ultimate outcomes (job strain, frustration, turnover intentions, and job satisfaction).

ABUSIVE SUPERVISION AND OUR THEORETICAL PERSPECTIVES

To help inform our predictions on the influence that abusive supervision has on the job perceptions of computer workers, we draw from two theoretical bases: Conservation of Resources (COR) theory and the Transactional Model of Stress and Coping. First, COR theory proposes that individuals have a finite amount of valued job resources that they seek to conserve and protect from job-related stress [25]. These job resources can be classified as work resources (e.g., status or seniority at work), personal resources (e.g., feelings of achievement or optimism), material resources (e.g., financial stability), energy resources (e.g., time and effort), and interpersonal resources (e.g., companionship and feeling valuable to others) [26]. In terms of the benefits they provide to workers, job resources can aid in reducing the psychological costs associated with dealing with job demands, in achieving work goals, and in stimulating personal growth and development [56]. It has been suggested that work-related stress can threaten job resources for a worker if there is a perceived threat of resource loss, if there is an actual loss of resources, if work-related demands exceed the value of one's resources, or if the resources invested do not result in the expected return [28]. Coping with job stressors depletes a worker's valued job resources. An abusive supervisor can conceivably threaten a worker's job resources through any of those circumstances, either by withholding the provision of additional resources or by making unreasonable demands of the worker [22]. Where facilitating conditions like supportive supervision can provide the replenishment of job resources for a computer worker [23], an abusive supervisor will likely serve as a source of stress that a worker must constantly keep at bay. Following from COR theory, we expect that workers will not be able to protect

values resources without suffering negative consequences, which we hypothesize in the next section.

The Transactional Model of Stress and Coping also provides insight on how an abusive supervisor may present a source of consternation to a technology end-user and how the worker may find ways to alleviate the stress that results. Based on the work of Lazarus and Folkman [38], the model views stressful experiences as a transaction between a person and his or her environment, and it provides an explanation for the nature of coping processes that a person undergoes during a stressful event. The model conceptualizes two separate appraisal processes, the primary appraisal evaluating the impact of the stress on the person's own well-being and the secondary appraisal assessing the options available for minimizing any harm that may occur [16]. While some stressful events may be effectively managed through proactive coping mechanisms like ingratiation, those same tactics may also increase abusive behaviors if the person is not politically skilled at doing so [24]. Instead, we propose that workers will seek to alleviate stress by partaking in activities that they are skilled in and qualified to do, namely their work. For example, IT workers have reported that updating one's technical skills can be a useful strategy for coping with on-the-job stress [66]. We expect that end-users will similarly cope with abusive supervision by working harder, faster, and more efficiently.

Using both the COR theory and the Transactional Model of Stress and Coping, we predict that abusive supervision will have both immediate effects and distal effects on technology end-users. The four immediate job-related factors investigated in this study include pressure to produce, time pressure, work overload, and the liking of computer work. These factors are expected to be influenced directly by the types of abusive behavior described earlier. Because the factors are regarded by workers as unfavorable (liking of computer work notwithstanding), we expect that workers will seek to avoid them at all costs, including the expenditure of valuable job resources. The reduction in resources is expected to effect the distal outcome factors explored in this study, namely job strain, frustration, turnover intentions, and job satisfaction. However, we also predict that technology end-users may be able to combat the effects of abusive supervision by absorbing themselves within their work. As the Transactional Model suggests, engaging in work may present a valid option that allows workers to cope with abusive supervision. Unfortunately though, the more workers feel pressure and overload, and the less they like their work, the more likely they are to experience negative consequences. A conceptual model representing these predictions is presented in Figure 1 below. In the following section, we refine the preceding discussion and develop hypotheses to test the relationships between abusive supervision and the four immediate outcomes.

***** Figure 1. Conceptual Model. *****

IMMEDIATE OUTCOMES OF ABUSIVE SUPERVISION FOR TECHNOLOGY END-USERS

PRESSURE TO PRODUCE. Pressure to produce is defined as “the extent to which management exerts pressure on employees to produce” [58, p.140]. As discussed earlier, one coping mechanism that workers may have to alleviate the effects of a stressor like abusive supervision is to gain approval from the supervisor by being more productive. This increase has already been observed in non-abusive supervisor-subordinate relationships, as case studies have shown that when technology workers perceive that their supervisors' priorities are not in line with their own, they feel an increased pressure to produce in order to realign those priorities [21].

Similarly for abusive relationships, it is expected that employees who are abused seek to avoid future abuse by increasing their production.

Hypothesis 1: Abusive supervision is positively related to perceived pressure to produce.

TIME PRESSURE. Time pressure is defined as the strain resulting from an insufficient amount of time to complete assigned job-related tasks [37]. Workers under high time pressure often find themselves engaging in “fire-fighting” immediate tasks that suddenly crop up, preventing them from optimally completing their expected work [5]. Like pressure to produce, an increased perception of time pressure is expected to result from abuse from a supervisor. As discussed in a previous section, the abusive relationship may serve as a constant reminder of the worker’s loss of process control, a perception which has the tendency to boost feelings of time pressure [62]. Additionally, abused employees are likely to perceive higher time pressures as their supervisors are not supportive or laissez-faire, and similar to other organizational employees, technology end-users will likely believe their bosses can become abusive if work is not completed in a timely manner.

Hypothesis 2: Abusive supervision is positively related to time pressure.

WORK OVERLOAD. Work overload is defined as job demands that require overly high physical and/or psychological effort on the part of the worker [56]. Abused workers report one of the actions from supervisors they most resent is the act of overloading them with unreasonable work expectations [9]. This could be the result of the supervisor taking a significant amount of job autonomy away from the worker by burdening him or her with work assignments that interfere with the progression toward his or her goals. In fact, this feeling of overload has been previously observed with IT workers who had seen a reduction in their personal control over their jobs [3].

Hypothesis 3: Abusive supervision is positively related to work overload.

LIKING OF COMPUTER WORK. Liking of computer work is simply defined as one’s general affect toward all computer work, rather than an opinion based on a solitary information system [54]. This is an important distinction for technology end-users, who are often to have work that involves more than one system. Challenging, engaging work has long been identified as being one of the more appealing characteristics of the job for IT workers, and it is considered key for both hiring and retention [1, 4]. In the context of the current study, however, the appeal of computer work may diminish in the face of abusive supervision.

Prior research indicates that supportive supervision serves to replenish job resources for IT workers, and its influence is most effective when workers’ liking of the computer work they are tasked with is high [23]. However, we predict a more direct relationship between abusive supervision and liking of computer work. Should a supervisor essentially drain a worker’s job resources through his or her abusive behavior, the worker will likely resent the very work that is being demanded. This expectation corresponds with findings of employees expressing negative affect toward their work as a result of dysfunctional relationships, either between mentors and protégés [49] or between work and family [69]. Here, it is expected that technology end-users suffering from abusive supervision will report less liking of computer work.

Hypothesis 4: Abusive supervision is negatively related to liking of computer work.

The preceding four hypotheses deal with the direct, immediate result of abusive supervision. However, we will extend our predictions about the influence of abusive supervision reaching through these immediate outcomes toward other potential consequences, such as job strain, frustration, turnover intentions, and job satisfaction in the following section. In short, the job-related immediate outcomes are expected to have implications on employees' attitudes and behavioral intentions, due to either a loss of job resources suffered while defending oneself against the abuse (as suggested by COR theory) or, in the case of liking computer work, due to the ability to alleviate the impact of abuse through an engaging activity, as suggested by the Transactional Model of Coping and Stress.

DISTAL OUTCOMES OF ABUSIVE SUPERVISION FOR COMPUTER WORKERS

JOB STRAIN. Job strain is the psychological toll suffered by a worker that results from three job characteristics (demands, constraints, and supports) and is of concern to occupational health professionals, as the effects of the strain can have adverse physiological implications on strained workers [19]. In the current study, the Job Demand-Control model developed by Karasek [34] informs our predictions on how the immediate effects of abusive supervision (namely, higher pressure to produce, time pressure, and work overload, and lower liking of computer work) can increase job strain. In the model, job strain is proposed to result from two factors: psychological demands and decision latitude. Psychological demands involve pressures present in the work environment, including a high task load and perceptions of time pressure. Decision latitude involves the worker's autonomy on the job and the ability to control personal skills used in work processes. The model suggests that work environments with high psychological demands and low decision latitude will result in increased job strain [34]. The motivations underlying abusive supervision, like the intention of subverting subordinate control, support an environment with those conditions. In fact, the influence of a supportive supervisor has been found to be a buffering agent against job strain by alleviating time and production pressures and feelings of overload [35, 68].

FRUSTRATION. Common sources of frustration with one's job can include events, situations, and of particular importance to the current study, people who interfere with a worker's progression toward completing tasks, such as when a supervisor assigns a worker an additional task to be completed urgently [59]. If this interference comes from an abusive supervisor seeking to wrest control from subordinates, it seems likely that frustration will result. Indeed, workers have the tendency to become frustrated when they believe they are losing personal control over their work practices due to abusive situations [8, 73]. We expect that frustration will grow from the increased pressure to produce, increased time pressure, and work overload, and decreased liking of computer work that all stem from abusive supervision.

TURNOVER INTENTIONS. Turnover intentions are the intentions of a worker to cease working for one organization and to hold a position in a different organization [45]. Relevant to the current study, Tepper [60] found that workers who reported suffering abusive behaviors from their supervisors were more likely to quit their jobs. This corresponds with research on turnover incidence for IT workers which suggest that workplace conditions can be responsible for producing an unsatisfying, high pressure work environment that encourages thoughts of quitting [64]. Others have found that turnover/retention intentions for IT workers can hinge on their career goals and needs being fulfilled in their particular workplace [32]. Taken together, prior

research suggests that unsatisfactory conditions produced by an abusive supervisor, whether by inducing pressure or by preventing worker goals from being fulfilled, will likely increase intentions to quit.

JOB SATISFACTION. A copious amount of management literature has made the connection between supervisors and job satisfaction, with the behaviors and decisions made by supervisors serving as one of the primary sources of interactional justice between the organization and its employees [15]. In fact, for jobs with high demands, high levels of supervisor support can buffer job strain and improve job satisfaction [55]. However, the actions taken by an abusive supervisor, through increasing perceptions of pressure and workload, are expected to have the opposite effect. Should workers believe that they are being treated unfairly by supervisors, taking the form of interactional injustice, one should expect decreased levels of job satisfaction [24]. Increasing a worker's workload, or exerting pressure to produce more with less time, are actions that can be interpreted by the worker as forms of injustice. In terms of how liking computer work can influence one's job satisfaction, technology end-users who receive intrinsic rewards from liking the work they perform are more likely to view their jobs with a higher level of satisfaction [63, 71]. Thus, if an employee dislikes computer work (which can result from abusive supervision), we expect job satisfaction to decrease as well.

Given the above discussion, we hypothesize the following relationships between the immediate outcomes of abusive supervision and the distal outcomes:

Hypothesis 5: Pressure to produce is positively related to (a) job strains, (b) frustration, and (c) turnover intentions and is negatively related to (d) job satisfaction.

Hypothesis 6: Time pressure is positively related to (a) job strains, (b) frustration, and (c) turnover intentions and is negatively related to (d) job satisfaction.

Hypothesis 7: Work overload is positively related to (a) job strains, (b) frustration, and (c) turnover intentions and is negatively related to (d) job satisfaction.

Hypothesis 8: Liking computer work is negatively related to (a) job strains, (b) frustration, and (c) turnover intentions and is positively related to (d) job satisfaction.

METHOD

SAMPLE AND PROCEDURE

Respondents were recruited by students in a senior-level management class at a Midwestern university. Each student was given the opportunity to distribute three surveys to have completed by full-time employees (35 or more hours per week, with at least 25 of those hours spent on a computer) in organizations with at least ten employees. In exchange for distributing and having the surveys completed, students received course credit. This technique for collecting data has been used successfully in a number of research efforts [e.g. 27, 39, 65].

Each survey contained an introductory cover letter that explained the purpose of the study, which was to examine workplace relationships, technology, behavioral intentions, and job attitudes. The respondents were required to provide the university student's name on the first page of the survey, as well as their phone numbers on the survey's final page. To provide increased confidence in our findings, one of the authors randomly selected completed respondents to call and ask innocuous questions (e.g., "What part of the survey did you find to be the most thought-provoking?"). Based on the respondents' answers to these questions, follow-up questions were asked about more objective information on the survey (e.g., "How long have you been with your organization?"). Additionally, students were informed at the onset that if there

were any questions or suspicions about who completed the survey, no course credit would be given. Although not foolproof nor a 100% guarantee, we feel that these data collection techniques helped to ensure the truthfulness of our data.

In total, 303 surveys were distributed to workers from a large spectrum of different organizations, and we received complete data from 225 respondents, resulting in a 74% response rate. The sample was 39% male and 61% female, and the primary race of respondents was Caucasian (85.8%). The average organizational tenure of our sample was 7.1 years, with the average job tenure of 4.9 years. The respondent ages ranged from 19 to 65 with a mean age of 37.1 years. On average, our respondents worked 41.4 hours per week, with 31.5 of those hours involving work on a computer.

MEASURES

All of the items in the scales were rated on a Likert type scale with response anchors of 1 = Strongly Disagree and 5 = Strongly Agree. Items were averaged to form a scale score and coded such that high numbers represented high levels of the constructs.

Abusive supervision. Abusive supervision was measured with six items from the Tepper [60] scale. As this scale has not been used in previous MIS/IT research and is vitally important in our study, we have provided all items in the appendix.

Pressure to produce. We developed five items to measure technology-related pressure. These items were developed after examining the extant literature on the topic (e.g., [67]) and determining there was not an existing scale that measured the specific nature of perceived pressure that we were investigating. A sample item was “People here are under pressure to meet targets.”

Time pressure. We developed five items to measure time pressure that results from technology. These items were developed after we examined the extant research and realized there was not an existing scale that measured technology-related time pressure. A sample item included “I feel responsible for replying to work demands quicker because of email and technology.”

Work overload. Work overload was measured with the 21-item scale [51], which is composed of four items. A sample item included “My workload is too heavy.”

Like/dislike of computer work. The like/dislike of computer work was measured with the five-item scale from [23]. A sample item was “Working on a computer is something I enjoy.”

Job strain. We measured job strain with the Rizzo et al. [53] six-item scale. A sample item was “I work under a great deal of tension.”

Frustration. Job frustration was measured with Peters and colleagues’ [50] three-item scale. A sample item included “Being frustrated comes with this job.”

Turnover intentions. Turnover intentions were measured with the Seashore et al. [57] three-item measure. A sample item was “I often think about quitting.”

Job satisfaction. We measured job satisfaction with the Michigan Organizational Assessment [11] three-item scale. A sample item was “All in all, I am satisfied with my job.”

ANALYSIS TECHNIQUE

The models were estimated using M-PLUS version 5.21 [47] using a two-step structural equation modeling approach, first assessing the measurement model, followed by the structural model. In order to assess the measurement model, we used confirmatory factor analysis to calculate the convergent and discriminant validities of the constructs used in the research model.

Convergent validity was examined using the Average Variance Explained values for each construct, with sufficient validity being confirmed if the AVE value is above the recognized cutoff of 0.50. In addition, the internal consistency of each construct was measured using Cronbach's Alpha, with the recommended tolerance being 0.70 [48]. All constructs displayed sufficient AVE values as well as tolerable Cronbach's Alphas, providing evidence of convergent validity.

Discriminant validity was assessed by comparing the square root of the AVE value for each construct with its inter-construct correlations with the other latent constructs. Both the correlation values and the square roots of the AVE values are displayed in Table 1 below. Because the square roots of the AVE exceeded the related correlations for each construct, the requirement for discriminant validity was satisfied [20]. Finally, the factor loadings for each item all loaded higher on its appropriate construct than on any other construct (see Table 2 below), which also provides evidence of construct validity.

***** Table 1. Inter-Construct Correlations here *****

***** Table 2. Factor Loadings here *****

RESULTS

Next, the structural model testing the hypothesized relationships was assessed using maximum likelihood estimation. The results of the structural analysis are displayed in Figure 2 below. The fit indices largely indicated that the overall fit of the structural model was acceptable. The ratio of the χ^2 metric to the degrees of freedom was 1467/714, or 2.05, where a ratio between 2 and 3 signals appropriate fit [12]. Other fit indices included the RMSEA = .07 (less than .08 is considered adequate) and the CFI = .91 (greater than .90 is appropriate) [10].

The first set of hypotheses predicted that abusive supervision would be positively related to pressure to produce, time pressure, and work overload, and that it would be negatively related to liking computer work. The SEM analysis indicated that each of these paths were significant in the hypothesized directions, supporting Hypotheses 1 through 4. The amount of variance explained for each of the exogenous factors ranged from .04 for work overload to .09 for pressure to produce, which Cohen's [13] guidelines for effect size suggest is a moderate effect.

***** Figure 2. Results of SEM Analysis here *****

The second set of hypotheses examined the relationships between the four immediate outcomes of abusive supervision and the four distal outcomes. Pressure to produce was found to be positively related to job strain (supporting H5A), frustration (H5B), and negatively related to job satisfaction (H5D), but was not significantly related to turnover intentions ($\beta = .04$, $t = .64$), failing to support H5C. Time pressure was significantly related to job strain (H6A) and frustration (H6B), but not intentions to turnover ($\beta = .05$, $t = .83$) and job satisfaction ($\beta = .06$, $t = 1.00$). The third immediate outcome, work overload, was significantly related to frustration (H7B), as well as to job strain, but in the opposite direction predicted by H7A. Work overload was not significantly related to turnover intentions ($\beta = .01$, $t = .07$) nor to job satisfaction ($\beta = -.03$, $t = -.51$). Finally, liking computer work had significant relationships with frustration (H8B), turnover intentions (H8C), and job satisfaction (H8D), all in the predicted directions. However, there was no significant relationship found between liking computer work and job strain ($\beta = -.08$, $t = -1.07$), failing to support H8A. In terms of the variance explained for the distal outcome

factors, job strain, job satisfaction, and especially frustration surpassed Cohen's [13] suggested .14 standard for a large effect size.

DISCUSSION

The overall purpose of this study was to explore the effects of abusive supervision on technology end-users. Abusive supervision was significantly linked to all four of the immediate outcomes that were hypothesized, and those outcomes were largely tied to the distal outcomes, with a few exceptions. Beginning with the job-related more immediate consequences from abuse, we found that abusive supervision was positively related to pressure to produce, time pressure, and work overload, and negatively related to liking computer work. These results are in line with both the COR theory and the Transactional Model of Stress and Coping and show that abusive supervision not only impacts negative variables (pressure to produce, time pressure, and work overload), but also liking computer work, a positive variable. When supervisors abuse subordinates, this leads to valued resources (energy and effort) being threatened and subordinates experiencing certain reactions (e.g., higher pressure or overload).

In terms of the ultimate (distal) outcomes, we found that time pressure and work overload were associated with two ultimate outcomes, and that pressure to produce and liking computer work were associated with three of our four ultimate consequences. Interestingly and in line with both of our theoretical perspectives, job frustration was predicted by all four of our intermediate outcomes and these variables explained 38% of this consequence. Our immediate outcomes (that result from abusive supervision) also explained 15% of the variance in job strain and 16% in job satisfaction, thus pointing to the importance of examining abusive supervision and its intermediate and ultimate outcomes. Finally, it was surprising that only liking computer work was related to turnover intentions. This finding was unexpected, but might be due to the current economy and lack of jobs, as employees may experience strain, frustration, or a lack of satisfaction with the job, but it may not be enough to make them want to leave their current places of employment. Another possibility may be that the modeled predictors were more strongly linked with stress-related and attitudinal variables than with behavioral intentions. However, we must admit that both of these explanations are speculative and would need to be investigated in future research.

One unanticipated result involved the significant negative relationship between work overload and job strain that was opposite of the positive relationship that was hypothesized. This result contradicts the bulk of behavioral research that puts forth feelings of overload as a leading cause of job strain. While the technology end-users who responded reported an above average perception of work overload (3.35 on a five point scale), perhaps the type and setting of the work involved plays a factor. For example, Ahuja and colleagues [3] examined how perceived work overload affects IT workers who perform most of their work off-site, such as with consulting roles at a client firm, and much of the feelings of work overload in that sample came from spending long hours away from home, rather than from an abusive supervisor. It is reasonable to expect that, all other things being equal, remote technology end-users will not be quite as susceptible to abusive supervision as workers who are collocated with their supervisor. However, future research would be required to attend to those differences.

The results of this study add to the existing research on the supervisor-subordinate relationship in the technology domain by spotlighting a previously unexamined variable, abusive supervision. Abuse exists in the IT function as it does in any other business function, and the hope is that this study serves as a first step at examining this important issue within the IS field.

Previous research has maintained that one of the main roles of an IT supervisor is to serve as a buffer between the challenges and demands of the environment and the worker tasked with meeting those demands [17, 66]. This study provides evidence that an abusive supervisor not only fails to serve as a buffer, but can intensify the stress felt by workers. Where a supportive supervisor attempts to balance workloads, advocates for the IT function with upper management, manages project expectations, and offers workers opportunities to “blow off steam” [66], other supervisors may be singling out subordinates for increased workloads, ridiculing, giving the silent treatment to, little to no advocacy, reduced rewards, and comments meant to belittle the employee in front of peers in an effort to further exert control over the department.

PRACTICAL IMPLICATIONS

The results of this study have direct implications for managers. First and foremost, our results show that abusive supervision has immediate and distal consequences for technology end-users. Armed with this knowledge, organizations should make sure that employees who are promoted to be supervisors are qualified and do not engage in abusive behaviors. In many cases, top performers get promoted based on their technical and performance abilities, but this does not ensure that these top performers have the desired human skills needed to manage others.

Although it would be preferable to ensure that potentially abusive employees are not promoted to supervisory positions, the reality is that a number of abusive managers are already employed in such roles. Thus, supervisors need to be informed of the importance of their relationships with their subordinates as well as the negative consequence that are likely to result when subordinates are abused by those managing them. It may be the case that supervisors do not know their actions are considered abusive and/or the negative consequences that result from their abusive behaviors. Finally, organizations should consider having supervisor training sessions that involve both discussions of appropriate and inappropriate behaviors, role playing, and how to minimize or eliminate abusive actions. Often, employees are promoted into supervisor positions and might receive training when first promoted. However, the frequency of training sessions in many organizations diminishes and the focus is rarely on abusive supervision, thus making this type of training all the more important.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Although our study had a number of strengths, there are limitations that must be acknowledged to correctly interpret the study's results. First, all of the variables in our study were captured at the same point in time from the same individuals. As a result, common method variance (CMV) may have influenced our findings [43, 52]. However, the moderate correlations (the highest was .64) between our study variables suggest that CMV was a minimal concern in our analyses. Additionally, based on the research questions and variables examined, we felt the same focal employee was the most appropriate person to provide ratings. Second, we utilized students in collecting our survey data. We took safeguards to ensure the honesty of the responses, but we acknowledge that this may be viewed as a limitation.

Another limitation to the study is that due to our research design, we were unable to definitely rule out more complex, longitudinal relationships between the variables in our study. For example, it may be that abusive supervision leads to feelings of pressure to produce which then leads to higher job frustration, with higher job frustration ultimately leading to lower job performance and lower job performance resulting in employees being abused more by their supervisors. What is being described is a recursive relationship that we are unable to examine,

but that we hope future research will examine the associations we investigated longitudinally. We feel this is an important next step as abusive supervision is likely to have not only immediate effects, but also long-term effects. Future research efforts should also examine moderators of abusive supervision-outcome relationships. In particular, it is likely that abusive supervision impacts some individuals (e.g., those with low self-esteem or who have high levels of supervisor dependence) more strongly than others. Thus, we hope research efforts will be designed to examine these questions.

A different research question relates to the effect of abusive supervision on different kinds of computer work. More specifically, does abusive supervision and the resulting negative effects occur at different rates depending on the type of computer work performed? Future studies that examine abuse with programmers, system analysts, administrative assistants, project managers, traveling consultants, and other types of computer workers would help to shed light on the phenomena. Finally, our findings about the considerable negative impact of abusive supervision for technology end-users elicit the question of how other negative workplace relationships influence end-users. To help tease out this notion, future studies could be designed that examine negative coworker, supervisor's superior, and peer relationships.

CONCLUSION

This study investigated how abusive supervisory behaviors impact technology end-users. We examined immediate outcomes and more distal outcomes and found that abusive supervision has negative impacts on both. These results shed light on the importance of examining supervisor-subordinate workplace relationships, especially negative ones, for employees who work on computers. However, our findings also elicit a number of additional questions that we hope future research efforts will strive to answer.

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Appendix. Items in the Abusive Supervision Scale.

1. My supervisor makes negative comments about me to others.
2. My supervisor gives me the silent treatment.
3. My supervisor expresses anger at me when he/she is mad for another reason.
4. My supervisor is rude to me.
5. My supervisor breaks promises he/she makes.
6. My supervisor puts me down in front of others.

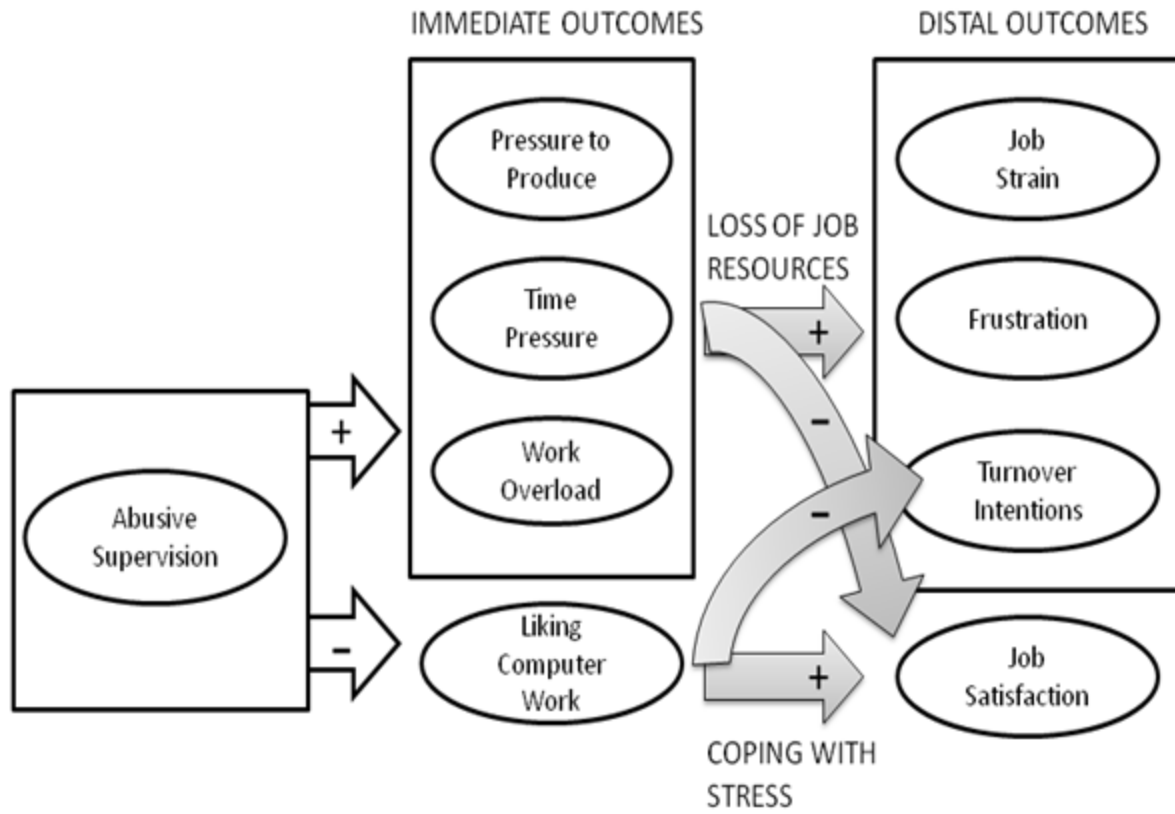


Figure 1. Conceptual Model.

Table 1. Inter-Construct Correlations (with Square Root of AVE bolded in diagonal).

		AbuS	WOver	PProd	Like	TimeP	JStr	Frust	TO	JSat
	Abusive Supervision	.72								
Immediate	Work Overload	.19**	.75							
	Pressure to Produce	.22**	.37**	.57						
	Liking Comp	-.26**	-.02	-.03	.78					
	Time Pressure	.22**	.64**	.56**	-.13	.66				
Distal	Job Strain	.36**	.07	.35**	-.10	.22*	.67			
	Frustration	.37**	.32**	.56**	-.27**	.44**	.22*	.79		
	Turnover Intentions	.34**	.03	.03	-.17*	.07	.28**	.25**	.89	
	Job Satisfaction	-.48**	-.08	-.27**	.20*	-.09	-.46**	-.43**	-.61**	.88

N=225. ** p<.01, * p<.05.

Table 2. Factor Loadings.

Computer Liking	$\alpha = .88$
like1	.849
like2	.708
like3	.849
like4	.825
like5	.692
Work Overload	$\alpha = .83$
over1	.801
over2	.888
over3	.600
over4	.672
Job Strain	$\alpha = .84$
strain1	.254
strain2	.355
strain3	.940
strain4	.869
strain5	.891
strain6	.313

Time Pressure	$\alpha = .78$
speed1	.658
speed2	.618
speed3	.678
speed4	.734
speed5	.631
Turnover Intentions	$\alpha = .93$
to1	.951
to2	.782
to3	.953
Abusive Supervision	$\alpha = .88$
abuse1	.622
abuse2	.750
abuse3	.812
abuse4	.826
abuse5	.729
abuse6	.584

Pressure to Produce	$\alpha = .72$
press1	.739
press2	.403
press3	.588
press4	.571
press5	.528
Frustration	$\alpha = .83$
frust1	.787
frust2	.825
frust3	.753
Job Satisfaction	$\alpha = .94$
jobsat1	.961
jobsat2	.954
jobsat3	.699

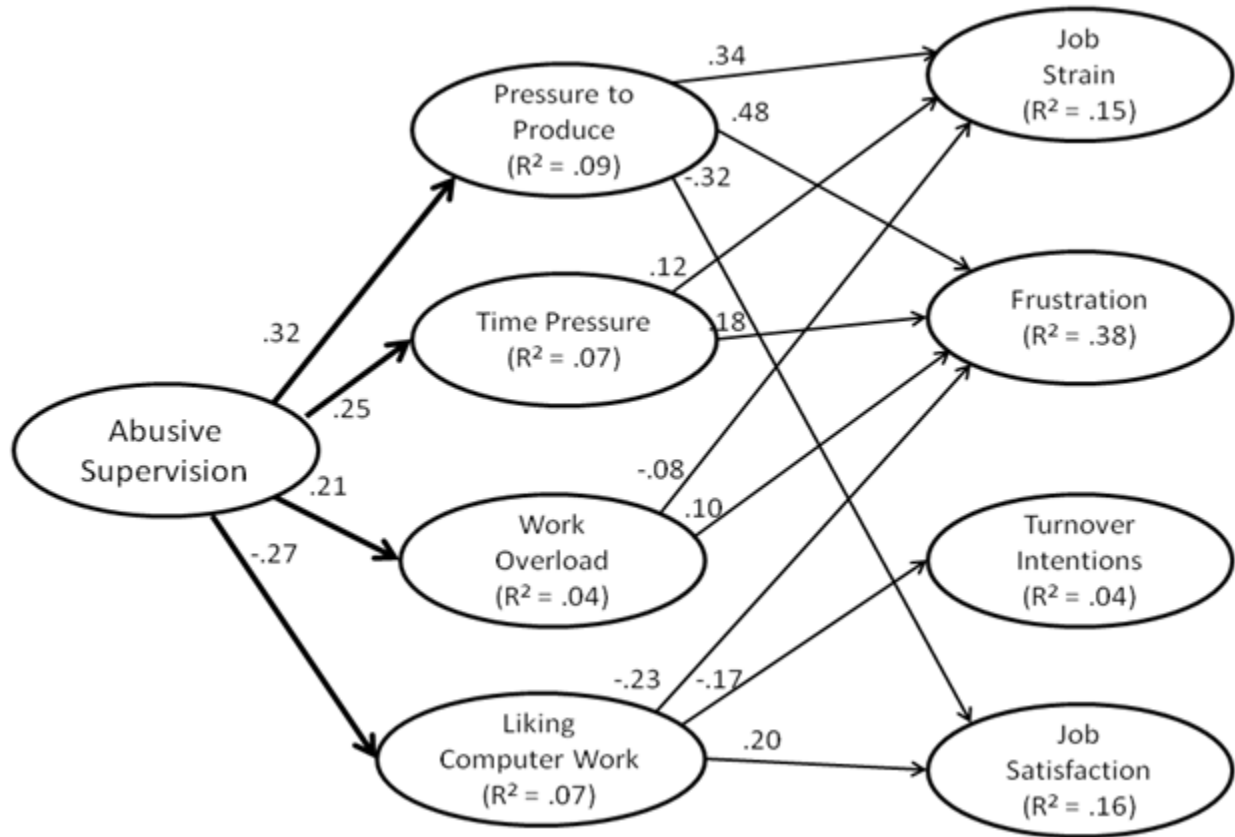


Figure 2. Results of SEM Analysis. Paths with significant beta values ($p < .05$) shown.