



# Performance, satisfaction and turnover in call centers The effects of stress and optimism

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## Abstract

This paper reports the results of a study, which measured the role of optimism and its effect on stress in call centers. Service providers at inbound call centers answered questionnaires designed to measure their personal orientation towards optimism, perceptions of job stress, work/nonwork conflict, performance, absenteeism and intent to turnover. We found that optimists did perceive lower levels of job stress and lower work/nonwork conflict. However, pessimists reported higher levels of performance and satisfaction and lower turnover intent. Implications for future research are discussed. © 2002 Published by Elsevier Science Inc.

*Keywords:* Call centers; Stress; Optimism; Role conflict and ambiguity; Job satisfaction; Job performance

## 1. Introduction

The development and use of call centers to handle various aspects of customer relationship management continues to grow rapidly. Call centers provide both customer service (via inbound calls) and sales opportunities through telemarketing to the public (via outbound calls) (Thaler-Carter, 1999). Many firms rely on call centers to address customer concerns about billing issues, new accounts, problems with a product or service and product information (Pontes and Kelly, 2000). While the call center is increasingly known as a valuable resource for firms in managing customer relationships, it has also developed a reputation as a stressful work environment (Proper, 1998).

Further, stress may be the primary culprit behind such negative organizational outcomes as high turnover and absenteeism in the call center industry (James, 1998). Management Today (1999) reported an absenteeism rate of 5% for call centers (as compared to a national average of 3.5%). James (1998) estimated the cost of turnover in call

centers at US\$10,000 per employee. Stuller (1999) reported an average turnover rate of over 30% for call centers.

While stress remains a ubiquitous aspect of organizational life, optimism may reduce the intensity of stress internalized by employees (Scheier and Carver, 1985). Optimism has been found to moderate performance in a variety of situations, including one's ability to cope with depression (Herman-Stahl and Petersen, 1996) and divorce (O'Leary et al., 1996), as well as to build a stronger immune system (Segerstrom et al., 1998; Kamen-Siegel et al., 1981).

This study sought to investigate the effects of optimism on the relationship between stress and performance, satisfaction and turnover in a call center environment. Specifically, we anticipated that pessimists experience greater levels of stress than optimists and consequently report lower levels of job satisfaction and job performance but higher levels of work/nonwork conflict, absenteeism and intent to turnover as compared to optimists.

## 2. Stress effects

Role conflict and role ambiguity are generally used to explain sources of organizational stress (Jackson and Schuler, 1985; Tubre and Collins, 2000). Role conflict refers to the presence of inconsistencies between job performance expectations and performance evaluation criteria (Kahn et al.,

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1964). In the call center environment, a possible source of role conflict occurs when managers encourage call center employees to resolve customer complaints but uphold a policy of performance evaluation based on criteria such as the number of calls taken or made, the amount of revenue generated and the amount of time callers waited. Such evaluation measurements may be contradictory to the desired behavior of solving complex (and what may be generally time-consuming) customer complaints or problems (Thaler-Carter, 1999). This problem is further illustrated by the common practice of evaluating call centers strictly as cost centers, wherein employees are evaluated on the basis of talk time or call abandon rates (Slater, 1999; Weitzman, 2000). Additionally, the Call Center Compensation Survey (Thaler-Carter, 1999) noted that call center employees felt very little respect from their supervisors.

Role ambiguity occurs when the information and resources required to fulfill one's job requirements are inadequate (Kahn et al., 1964; Jackson and Schuler, 1985). In call centers, employees seek to reduce the amount of time spent per call while still satisfying customers. Further, the high turnover rate in the industry makes it a constant challenge to maintain a trained workforce.

Role conflict and role ambiguity as organizational stressors are thought to reduce an employee's ability to perform by diverting effort away from performing job duties and towards coping with the stressors. In other words, we assume individuals possess a limited amount of energy and effort, which must be divided among the tasks at hand. The presence of stressors represents an added task and requires attention in the form of coping. Further, this drain on capacity is thought to increase when stressors are present over prolonged periods of time. Because the presence of stress reduces the resources available for job duties, performance declines, satisfaction decreases and one's intent to turnover increases.

Though a thorough review of organizational stress is beyond the scope of this paper (see Bedeian and Armenakis, 1981; Beehr and Baghat, 1985; Ganster and Schaubroeck, 1991; Sullivan and Baghat, 1992; Jackson and Schuler, 1985; Tubre and Collins, 2000), we provide a brief overview of the effects of organizational stress on performance, satisfaction, turnover and work/nonwork conflict.

### 2.1. Stress and performance

Sullivan and Baghat (1992) reviewed four possible scenarios regarding stress and performance: (1) stress may increase performance, (2) stress may decrease performance, (3) stress may have no effect on performance and (4) the relationship between stress and performance may represent an inverted-U. Their findings supported a negative relationship between stress and performance and they concluded by stating that there is considerable loss due to the effects of stress upon important outcomes including job satisfaction and performance. Allen et al. (1982) supported this nega-

tive view of stress and noted that debilitating stress was the most common form of stress found in organizations. Results from a meta-analysis by Tubre and Collins (2000) further confirmed the presence of a negative relationship between role ambiguity, role conflict and performance. Fried et al. (1998) studied the interactive effects of role ambiguity and role conflict on performance and also found a negative relationship.

The possibility of stress having no effect on performance has little, if any, support. Rabinowitz and Stumpf (1987) suggested that there is a positive relationship between stress and performance. While literature provides stronger evidence for the negative relationship, one final possibility was discussed by Sullivan and Baghat (1992). Given evidence of two diverse outcomes (one suggesting a positive relationship and the other suggesting a negative relationship), one may conclude that the actual relationship is that of an "inverted-U." The inverted-U view of stress and performance contends that the absence of stress creates no motivation to perform. Yet, the debilitating pressure of extreme stress creates an inability to perform. At the top of the curve, however, performance is maximized with a moderate level of stress providing some challenge without excessive strain. Beehr and Baghat (1985) suggested that this model is difficult to refute given that virtually any relationship found between stress and performance can be said to fit somewhere on the curve.

Allen et al. (1982) suggested that there are actually two forms of stress: functional and dysfunctional. While functional stress can be positive, dysfunctional stress is not and their findings indicated that dysfunctional stress is dominant in organizations. If indeed most organizational stress is dysfunctional, it is possible that most studies regarding stress and its effect on performance have involved individuals experiencing the higher levels of stress and, consequently, lower levels of performance. Still, researchers have not been successful in confirming the model in the literature, giving it only weak empirical support.

### 2.2. Stress and job satisfaction

Similar to the relationship between performance and stress, the literature suggests that job stress and satisfaction are inversely related (Babin and Boles, 1998; Sullivan and Baghat, 1992). This relationship is most frequently depicted in high-stress occupations such as ambulance workers (Young and Couper, 1995), physicians (Williams et al., 2001), nurses and dentists (Tetrick and LaRocco, 1987) and salespeople (Babakus et al., 1999). Several researchers have also meta-analyzed the effects of job stress on job satisfaction (e.g., Jackson and Schuler, 1985; Daniels and Bailey, 1999). The relationship between stress and job satisfaction may also be moderated by several variables including sense of competence, perceived control, locus of control, among others (see Sullivan and Baghat, 1992 for a review of these and other studies on the relationship between stress and

satisfaction). Positive job satisfaction is thought to decrease one's intent to turnover. Thus, stress may be related to turnover though job satisfaction.

### 2.3. Stress and turnover/absenteeism

There appears to be an indirect but negative relationship between stress and turnover and/or absenteeism. In this case, stress affects an employee's voluntary choice to leave employment through its influence of job satisfaction (Kemery et al., 1985). Matteson and Ivancevich (1987) found that stress causes half of all absenteeism and one-fourth of all voluntary turnover. This phenomenon was mirrored in a study of food service workers conducted by Babin and Boles (1998). Though, they also found a strong gender effect between stress and negative job outcomes. Williams et al. (2001) found that increased stress among physicians resulted in several forms of withdrawal. The physicians reported higher turnover intentions and an increased likelihood to reduce work hours or withdraw from direct patient care. Thus, it appears that stress first manifests itself as an increase in job dissatisfaction, which may lead to an increase in quitting intent (or an increase in absenteeism).

### 2.4. Stress and work/nonwork conflict

Stress at work tends to make its way to the home of employees in the form of work/nonwork conflict (Bagozzi, 1978; Edwards, 1999; Bowles and Babin, 1996; Babin and Boles, 1998). Work/nonwork conflict is the degree to which one's work requirements infringe negatively upon one's life away from work. In other words, work/nonwork conflict can be thought of as stress at home that is caused by stress at work. The relationship between stress at work and work/nonwork conflict has been documented largely in service industries and within sales forces. Logically, there is a link between investments of time and emotional involvement in employment and the degree to which those investments invade (or even represent withdrawals in) one's home life. For example, time expended at work decreases the time available in home for any activity. Work/nonwork conflict is an important aspect of any study on work stress due to its additive effect on work-related outcomes. Specifically, work/nonwork conflict adds to one's perceptions of stress, thereby enlarging such effects as decreased job satisfaction. Babin and Boles (1998) confirmed this relationship when they showed that negative feelings associated with this work/nonwork conflict eventually reduced job satisfaction. Sparks and Cooper (1999) identified stress from one's home-work interface as one of many sources of stress for employees.

### 2.5. Stress and optimism

Optimism acts to reduce perceptions of stress and to increase an individual's ability to perform (Seligman, 1990;

Scheier and Carver, 1992). The meaning of "performance" varies depending on the study in question. For example, Scheier and Carver (1985) found that optimists experienced fewer physical symptoms of stress. Peterson et al. (1988) reported that pessimism is a risk factor for poor health in later life. Herman-Stahl and Petersen (1996) identified optimism as an explanatory variable in understanding the ability of adolescents to cope with depression. Along similar lines, O'Leary et al. (1996) suggested that optimistic parents involved in divorce are better able to cope with the pressures of divorce than pessimistic parents are.

A review of studies supporting an attribution style measure of optimism reported similar results (Peterson and Seligman, 1984) as does a meta-analysis of studies using the Life Orientation Test (LOT) as a measure of optimism (Andersson, 1996). In the business environment, Seligman and Schulman (1986) found that success of life insurance salespeople was strongly correlated to a salesperson's level of optimism. It is such evidence regarding the apparent advantages of an optimism orientation that perhaps led Strutton and Lumpkin (1992) to conclude that optimists are superior job performers. Thus, findings indicate that optimism is a stress moderator in many situations and this ability to manage stress may ultimately result in better performance.

Optimism or life orientation (Scheier and Carver, 1985) refers to how an individual assesses or anticipates outcomes. For instance, an optimist will anticipate a positive and desirable outcome as a result of his or her efforts, while a pessimist will tend to anticipate a negative outcome. This is related but distinct from the idea of locus of control. Locus of control represents an individual's beliefs about whether the outcomes of one's actions are contingent on one's behavior (internal control orientation) or on events outside of one's personal control (external control orientation) (Rotter, 1966). Someone with an internal locus of control would generally perceive herself as responsible for that outcome (her actions would have a direct bearing on the result), while a person with an external locus of control would most often blame (or thank) fate, luck or some other force.

However, someone with an optimistic life orientation would generally anticipate a positive outcome or evaluate an outcome in a positive light, while a person with a pessimistic life orientation would anticipate a neutral or negative outcome or evaluate an outcome in a more negative light. Thus, an individual could feel responsible for and in control of events (internal locus of control) and still anticipate a negative outcome (pessimism) or feel out of control but still see the outcome in a positive light (external locus of control, optimism). It is useful to view this relationship as a formula such that events (E) + response (R) = outcome (O). Locus of control affects the degree to which or how a person will respond to life events, while life orientation affects the anticipated outcome or how that outcome is ultimately perceived. Peacock and Wong

(1996) investigated the relationship between optimism and locus of control as predictors of control appraisals and coping. They concluded that the two constructs were relatively independent in predicting control assessments and coping.

All studies involving optimism support the ability of an optimistic orientation to minimize disabling perceptions of stress. In other words, in each case, whether it is an employee's ability to perform in a high-stress environment, an individual's ability to cope with an emotional loss or a patient's ability to heal, optimists were better able to succeed despite the presence of stress. Given the existing support of optimism in diverse backgrounds, it follows that optimism may minimize the potential negative effects of stress in call centers as well.

### 3. Hypotheses

This paper describes the effect of optimism on the relationship between stress, work/nonwork conflict, job performance, job satisfaction and absenteeism and turnover in a call center environment. We expect that high-optimism orientations will reduce the intensity of stress internalized by employees. Consequently, stress effects on such work-related outcomes as job performance, job satisfaction, turnover and absenteeism should be weaker for optimists than for pessimists. While we anticipate support for the traditional direction of relationships between stress and each variable identified, we expect that the effects will be greater for pessimists than for optimists. The following hypotheses were examined:

*Hypothesis 1:* Perceptions of stress will be higher for individuals with a pessimistic orientation.

*Hypothesis 2:* Stress will be negatively related to job performance. However, pessimists will report lower job performance than optimists.

*Hypothesis 3:* Stress will be negatively related to job satisfaction, but pessimists will report lower job satisfaction than optimists.

*Hypothesis 4:* Stress will be positively related to turnover intent and pessimists will report higher turnover intentions than optimists.

*Hypothesis 5:* Stress will be positively related to work/nonwork conflict and pessimists will perceive more work/nonwork conflict than optimists.

Pessimists are expected to experience greater levels of stress than optimists. These high perceptions of stress are thought to manifest themselves through increases in the negative effects of organizational stress. Thus, pessimists are expected to report lower levels of job satisfaction, lower levels of job performance, higher levels of work/nonwork conflict and higher levels of the intention to turnover as compared to optimists.

### 4. Methods

This study used a survey approach to investigate perceptions of stress and its effect on the dependent variables among call center employees in the southeastern United States. The authors conducted the survey at two different call centers in the utilities industry. The two call centers were both inbound customer service centers focused on account management and the employees were not involved in telemarketing. It is important to note that outbound call centers focusing on sales and collections are likely to experience different perceptions of stress than those felt by employees in inbound customer service call centers (Babakus et al., 1999).

#### 4.1. Respondents

Employees ( $n = 122$ ) from the call centers participated in the study. Employees were told that participation in the survey was voluntary and confidential. Further, individual responses would not be released to the participating companies. In call center 1, surveys were distributed by the manager along with instructions to return the completed surveys to a box in the break room. Employees were given 1 week to return the surveys. While 96 employees typically work in the call center, 58 surveys were returned, resulting in a response rate of 60%. In call center 2, employees were provided an opportunity to answer the survey while at work and one of the researchers was on site to answer questions. All 64 employees present that day responded to the survey. Combining the two call centers, 87.7% of the participants were female, and 46.4% were Caucasian, 50% were African American and 3.6% of the respondents listed other. Call center 1 did differ significantly from call center 2 in perceptions of stress. Consequently, company was used as a control variable in subsequent analyses.

#### 4.2. Measures

##### 4.2.1. Optimism

Optimism was assessed with the LOT. The LOT is a 12-item measure of dispositional optimism, which focuses exclusively on the assessment of generalized outcome expectancies (Scheier and Carver, 1985). Participants responded on a Likert scale from 0 (*strongly disagree*) to 4 (*strongly agree*). The score represents a continuum such that 32 indicates the most optimistic orientation and 0 indicates the least optimistic orientation (Scheier and Carver, 1985). The median score for the sample was used as a dividing point to separate the respondents into pessimists and optimists. Cronbach's  $\alpha$  for this scale was .83.

##### 4.2.2. Performance

Performance refers to the productivity level of an individual employee. It is measured with six items using a

Table 1  
Means, standard deviations and correlations between variables

Variable	Performance	Satisfaction	Turnover	Optimism	Work/nonwork conflict	Mean	S.D.
Stress	.57***	.45***	.54***	–.45***	.21**	2.16	0.69
Performance		.32***	.38***	–.42***	.17*	2.52	0.71
Satisfaction			.46***	–.34***	.32***	2.46	0.75
Turnover				–.11	–.05	2.12	1.71
Optimism					–.33***	20.77	5.29
Work/nonwork conflict						2.82	1.00

\*  $P < .05$ .

\*\*  $P < .01$ .

\*\*\*  $P < .001$ .

Likert scale such that 1 = *strongly disagree* and 5 = *strongly agree*. The individual items followed from Babin and Boles (1998) and sought to compare the worker's performance relative to other call center employees in the company. Performance (and absenteeism) was self-reported. Employee knowledge of performance relative to others was regularly provided through monthly staff meetings, which identified top performers and techniques others could use to improve performance. Further, employees in both call centers were motivated through bonus programs based upon relative performance. Though previous research suggests that individuals may inflate performance evaluations when an appraisal may lead to personal gain (e.g., Mabe and West, 1982), support exists for the accuracy of self-reported performance measures for research purposes (Farh and Werbel, 1986; Farh et al., 1988). For instance, Farh et al. (1988) found high congruency between self-ratings and supervisory ratings. Shrauger and Osberg (1981) compared individual self-evaluations to other common evaluation tools and found that self-appraisals were as predictive of behavior as other assessment methods. Cronbach's  $\alpha$  for this scale was .85.

#### 4.2.3. Job satisfaction

Nine items assessed job satisfaction (scale of 1–5 with 1 = *strongly disagree* and 5 = *strongly agree*). The items reflect overall satisfaction with one's job but not any specific dimensions of satisfaction (Babin and Boles, 1998). Cronbach's  $\alpha$  for this scale was .93.

#### 4.2.4. Role stress

Consistent with the literature, stress was measured using role conflict and role ambiguity (Rizzo et al., 1970; Hartline and Ferrell, 1996). This study utilized measures used in Hartline and Ferrell's (1996) study. Cronbach's  $\alpha$  for this scale was .96.

#### 4.2.5. Work/nonwork conflict

Five items measured the effect of stress at work on one's personal life (Babin and Boles, 1998). Participants responded on a scale of 1 = *strong positive impact* to 5 = *strong negative impact*. Cronbach's  $\alpha$  for this scale was .94.

#### 4.2.6. Turnover intention

The intent to quit was measured with two items. One assessed the likelihood that the employee might quit within the next 3 months, while the second assessed the potential for quitting within the next year using a scale of 7 = *an excellent chance* to 1 = *a terrible chance* (Babin and Boles, 1998). Cronbach's  $\alpha$  for this scale was .91.

## 5. Results

To review the hypotheses examined, pessimists were expected to perceive higher levels of stress than optimists. In addition, pessimists were expected to report lower levels of job satisfaction, lower levels of job performance, higher levels of work/nonwork conflict and higher levels of the intention to turnover as compared to optimists.

Table 1 presents the means, standard deviations and correlations among the variables of interest. Significant correlations existed between stress and performance, satisfaction, turnover and work/nonwork conflict. Stress was related to the dependent variables, but not all of the relationships were in the hypothesized direction.

Table 2 summarizes the differences between pessimists and optimists with regard to the dependent variables. As expected, pessimists did report significantly higher perceptions of stress than optimists reported. Thus, there is support for Hypothesis 1. Pessimists also reported significantly different perceptions of job performance (Hypothesis 2)

Table 2  
Mean differences on dependent variables between optimists and pessimists

Variable	Pessimist mean	Optimist mean
Stress***	2.43	1.92
Work/nonwork conflict**	3.12	2.57
Job satisfaction**	2.64	2.26
Job performance***	2.85	2.24
Turnover	5.88	5.86

$P < .05$ .

\*\*  $P < .01$ .

\*\*\*  $P < .001$ .

Table 3  
Results of regression analysis of stress and optimism on performance, satisfaction, turnover, absenteeism and work/nonwork conflict

Independent variable	Performance	Satisfaction	Turnover	Work/nonwork conflict
Step 1: Control				
Company	0.35***	0.16	0.06	0.48***
$R^2$	.12	.02	.004	.25
$F$	16.39	3.10	0.42	38.04
Step 2: Main effects				
Stress	0.47***	0.37***	−0.57***	0.28**
Optimism	−0.21**	−0.18**	−0.15*	−0.26**
$R^2$	.43	.23	.26	.33
$F$	29.98	11.88	22.47	18.92
Step 3: Interaction				
Stress × Optimism	0.22	−0.14	−0.04	−0.006
Change in $R^2$	.00	.001	.00	.00
$F$	22.66	8.90	14.87	14.07
Overall $R^2$	.43	.23	.26	.33
Overall model $F$	29.98	11.88	22.47	18.92
S.E.	0.55	0.67	1.49	0.82

\*  $P < .05$ .

\*\*  $P < .01$ .

\*\*\*  $P < .001$ .

and job satisfaction (Hypothesis 3). However, the differences were not in the directions specified. Rather, pessimists reported significantly *higher* levels of job satisfaction and job performance than optimists reported.

Because of this unexpected finding, we also investigated a possible quadratic relationship among the variables by examining scatterplots for evidence of a nonlinear relationship. However, there was no support for this possibility. The relationships both appear linear. Thus, there is mixed support for Hypotheses 2 and 3. The results did not support Hypothesis 4. No significant differences existed between pessimists and optimists for turnover. Hypothesis 5 was supported as pessimists indicated feeling significantly more work/nonwork conflict than optimists.

A hierarchical multiple regression was conducted to examine the effects of stress and optimism on performance, satisfaction, turnover and work/nonwork conflict. To determine whether optimism acted as a main effect or primarily as a moderator of stress, the company was entered as a control variable in Step 1 followed by the main effects of role stress and optimism at Step 2 and by the entry of the interaction term between stress and optimism at Step 3. This procedure was followed for each dependent variable. The results are summarized in Table 3. In each case, the entry of the interaction term failed to result in a statistically significant increment in the adjusted  $R^2$ . However, in each case, the main effects for stress and optimism were significant in explaining the variance of the dependent variables.

## 6. Discussion

This study investigated the effects of optimism on employee job performance, job satisfaction, work/nonwork

conflict, intent to turnover and absenteeism in a call center environment. We found that optimism acts as a main effect on the dependent variable rather than as a moderator on stress, as initially anticipated. We also found that pessimists perceived greater stress than optimists, and this is true for role stress and for work/nonwork conflict. The more stress at work, the more likely stress at work might interfere with one's home life. Thus, it is not surprising that pessimists might experience more work/nonwork conflict than their optimistic counterparts.

We expected this higher perception of stress among pessimists to relate to lower job satisfaction, lower job performance and higher turnover intentions. While pessimists did differ significantly from optimists (as expected), the differences were not in the directions anticipated. Thus, the remaining hypotheses received mixed support. The remaining discussion will center upon these unexpected findings.

### 6.1. Stress and performance

First, in our sample, stress does not appear to be as detrimental to employee performance as originally anticipated. Recall that the literature in this area suggested that there were four possibilities with regard to the stress relationship to employee performance: (1) no relationship, (2) an inverse relationship, (3) a positive relationship and (4) an inverted-U relationship. The inverse relationship (such that increases in stress result in decreases in performance) found the most support. Results of this study, however, support the notion of a positive relationship between stress and performance (such that increases in stress result in increases in performance up to some point). Our findings indicate that pessimists perceive higher levels of stress (mean stress level = 2.43) than optimists (mean stress level = 1.90) and that there is a direct positive relationship between stress and performance, such that higher stress relates to higher performance. Results from this sample describe a situation in which optimists perceive low levels of stress and consequently have little motivation to perform, while pessimists perceive higher levels of stress, which serves as an impetus for higher performance.

At the same time, it seems unlikely that highly stressful situations would result in high performance. While the results did not offer support for an inverted-U relationship, it is possible that this study documents the relationship between stress and performance at low to moderate levels of stress. Because job stress was not high, but instead were of low to moderate levels (mean score of 2.15), we cannot truly assess the effect of high stress on performance in this case.

This finding brings into question commonly held beliefs regarding stress and performance. Many organizations are focused on developing methods of reducing stress for their employees. These actions are based on empirical and anecdotal evidence that stress at work is dysfunctional and results in decreased performance outcomes. If, however, the organization does not have dysfunctional stress, but instead

moderate and manageable levels of stress, then actions to reduce stress may actually result in a decrease in performance. This study suggests that organizations should focus on maintaining moderate levels of stress, which are associated with peak employee performance.

In addition, the differences found between pessimists and optimists are relevant to these implications. The same level of stress will be perceived differently by pessimists and optimists. In other words, optimists may perceive very high stress as moderate and moderate stress as low stress. At the same time, pessimists may perceive what is actually low stress as moderate and moderate stress as high stress. Much as Fiedler (1967) recommended a situational contingency theory of leadership, the appropriateness of pessimistic or optimistic employees may vary depending on the level of stress present in the job and work environment. Seligman (1990) maintains that an optimistic orientation can be learned. Such implications will require future research to investigate the relationship between stress and performance at a full range of stress points.

### 6.2. Stress and satisfaction

Past literature contended that high stress would put downward pressure on job satisfaction, but the current study suggests that there is a positive direct relationship between stress and job satisfaction. Because call center employees in this study received bonuses related to performance, the relationship between satisfaction and stress could be a function of the stress–performance relationship. Specifically, employees are more satisfied when they earn more and they earn more when performance is high. Consequently, the stress–satisfaction relationship in this case could be self-imposed to achieve higher performance levels and a higher pay level.

Another possible explanation for this relationship is provided by Rusbult's Investment Model (Rusbult et al., 1988). It suggests that one's satisfaction, investment at work and alternative job opportunities may affect whether an employee is likely to quit due to dissatisfying situations. In other words, job satisfaction may seem like a comparison of what is to what could be for many employees. Optimists may dream about the better job waiting around the corner and allow this anticipation of a better alternative to result in lower perceptions of job satisfaction. Pessimists, on the other hand, may feel that alternative job opportunities are difficult to find, thereby putting upward pressure on their assessment of job satisfaction.

### 6.3. Stress and turnover

Stress did not have the expected positive relationship to turnover intent. However, the results are consistent with our findings regarding stress and job satisfaction. Specifically, it would appear that because stress may be beneficial to employee satisfaction, no negative flight or organizational

neglect is experienced. Additionally, while one's optimistic orientation is related to one's job satisfaction and performance, it is not related to one's intent to seek employment elsewhere. A similar finding occurred in a study of physicians (Williams et al., 2001). The authors hypothesized that high stress would result in intentions to quit, change specialty or some other withdrawal behavior. Physicians did respond to the increased stress with some form of withdrawal. However, they did not respond with a direct intention to quit.

## 7. Conclusion

Our expectations regarding life orientation and perceptions of stress were confirmed. Pessimists did experience significantly higher perceptions of job stress and work/nonwork conflict as compared to optimists. This is consistent with the literature, which suggests that optimists do not internalize stress to the same degree as pessimists (e.g., Nelson et al., 1995). Based on past research, optimists would be expected to perform better and be more satisfied than pessimistic employees because the optimists would perceive lower levels of stress than their pessimistic counterparts in exactly the same situation. However, in this study, despite higher stress perceptions, pessimists reported both higher job satisfaction and job performance.

## 8. Limitations and suggestions for future research

This study's primary limitation is common method variance. While a stronger design would have provided multiple sources for measures, Avolio et al. (1991) noted that recommended procedures for addressing problems with single-source variance can often produce inconsistent results: "The solution, therefore, does not simply rest in applying statistical analyses and controls to the data collected from a single source" (p. 584). Further, structural equations modeling would have provided a method of controlling for common method variance following the technique described in Podsakoff et al. (2000).

The study included two call centers, both of which represent the inbound customer service type of call center. Given the current reputation of the call center industry as stressful work environments, it is possible that other call centers are more stressful or otherwise different from those investigated.

Additionally, better measures of stress may be appropriate. This study used measures of role conflict and role ambiguity to assess stress in the call centers. Literature on stress effects on health and emotional well-being report the use of "daily hassles" as a measure of stress (e.g., DeLongis et al., 1982). It is possible that the call center employees in this study did have relatively low levels of role conflict and

role ambiguity but perhaps have higher stress levels originating from hassles. Future research should include measures of hassles in the assessment of stress and its effects. Studies of higher stress levels should assess the relationship between burnout and life orientation. Because burnout occurs after periods of extended stress and pessimists perceive higher stress levels than optimists, it follows that pessimists may also be at a greater risk for burnout. This is particularly relevant for boundary spanning positions like call center representatives.

Coping skills may also represent a rich area for future research. Past literature on life orientation has assumed that optimists cope better than pessimists. However, the coping process itself may simply differ between the two. For instance, Moore (2000) noted that literature on burnout often assumes coping behaviors of depersonalization, diminished personal accomplishment, cynicism, decreased professional self-efficacy, reduced job satisfaction and turnover. She went on to postulate that the actual response to burnout is an individual one and varies from person to person. Perhaps, much as one's life orientation affects how one will interpret outcomes, it may also affect which coping strategies an individual uses in situations of stress and burnout. In other words, optimists may not cope better—just differently.

Finally, other types of call centers in various conditions should be investigated. For example, given the global importance of call centers, a larger sample using international call centers would be advisable. Different perceptions of stress may be found in outbound call centers where employees are likely to experience rejection and hostile responses. Future researchers should advance this work by investigating several types of call centers in various industries and geographic locations in order to promote the generalizability of the results and to allow for use of structural equations modeling.

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