5-1-2009

A Longitudinal Study of LMX and Stress: Is the In-Group Burning Out?

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Running Head: LMX, STRESS AND BURNOUT

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Undergraduate Honors Thesis Under the Direction of

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To be submitted to LSU Honors College in partial fulfillment
Of the Upper Division Honors Program

May 1, 2008

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Baton Rouge, La

Abstract

The objective of this longitudinal study was to examine the relationship between Leader-Member Exchange (LMX) theory, Organizational Citizenship Behaviors (OCBs), stressors, stress, and burnout. How LMX levels and OCB engagement could predict stress levels and burnout at a future time were examined. Specifically, this study aimed to find a curvilinear relationship between LMX and stress over time. Surveys were completed by 40 college workers who had just started a job within three months among various organizations. Follow up surveys were distributed via e-mail one month later. Results indicated that LMX was found to be predictive of burnout, stress, and overload. The LMX-stress relationship, however, was not found to be curvilinear in nature. LMX and OCB engagement were positively correlated. Factors influencing LMX and its relationship with stress as well as future research are discussed.

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Researchers and employers have long been interested in the dynamics of different types of relationships in the workplace. Of particular interest has been the examination of factors which influence the nature of relationships between subordinates and their supervisors, as well as how these relationships affect a variety of individual and organizational outcomes (Brouer & Harris, 2007; Lapierre & Hackett, 2007; Offermann & Hellman, 1996; Deluga, 1994). Leader-Member Exchange (LMX) theory is one theoretical paradigm that has been developed and applied to help describe the complexities of subordinate-leader interactions. LMX theory draws on social exchange theory (Liden, Wayne, & Stilwell, 1993). Generally, Social Exchange theory proposes that a relationship will persist when benefits outweigh the costs of maintaining that relationship (Deluga 1994). Drawing on this cost/benefit perspective, Graen and Cashman (1975) suggested, as part of LMX theory that supervisors do not interact in the same manner with every subordinate. Rather, supervisors build and maintain different relationships with subordinates they supervise, and as such, apply different styles of leadership to these subordinates as a function of their relationship (Graen & Cashman, 1975; Brouer & Harris, 2007).

In essence, a supervisor has a different one-on-one relationship with each subordinate. Research by Wayne, Shore, and Liden (1997) suggests that some subordinates receive greater support, trust, favors, and communication from their manager than others. These different exchanges between a supervisor and employees create an *in-group* and an *out-group*. The in-group consists of those individuals in a workgroup who share a positive and supportive relationship with their supervisor whereas the out-group consists of those individuals who

experience a more distant and unsupportive relationship with that same supervisor. Of note, research by Liden et al. (1993) suggests that a supervisor's expectation, perceived similarity, and/or liking of a subordinate may predict the value the supervisor places on their relationship with a subordinate within only weeks of employment. Although these results illustrate that the leader has a definite impact on relational dynamics between themselves and subordinates, it is also important to recognize that, as individuals, subordinates are going to demonstrate their own preferences in terms of the nature of the relationship they have with their supervisor.

Past research suggests that individuals are different and may work more effectively in different environments (Roberts & Robins, 2004). Although some employees function best in situations where they have a close relationship with their supervisor, others may prefer a more distant relationship. Also, different individuals work better under different amounts of stress (Searle & Bright, 2003). As a relevant outcome of LMX, researchers have recently begun to examine the nature of the stress process in relation to LMX itself (e.g., Harris & Kacmar, 2006).

Through understanding workplace relationships and sources of work-place stressors, employees and supervisors can work to improve employee health and well-being. It is important to examine how inter-personal workplace relationships as well as workplace stressors develop because most people spend the majority of their waking life at work. LMX, like any social relationship, is influenced by many factors. The current manuscript will focus on work stressors, stress and burnout, and reasons why higher quality LMX relationships may *not* be beneficial to everyone.

Workplace Stress

Edwards (1992) defines *stress* as a difference between a worker's perceived state and desired state in which that individual's well-being and coping skills are being challenged or threatened. As discussed by Folkman and Lazarus (1985), stress is a not a single event or experience, but rather a changing and unfolding progression; thus stress can be conceptualized as well as operationalized in a variety of ways. The prerequisite to perceived psychological stress are the actual *stressors*. Work role stressors (e.g., role conflict, role ambiguity, role overload) are stimuli that fuel the stress process (Jex, 1998; Podsakoff, LePine, & LePine, 2007). Past research has shown that the nature of the relationship between an employee and their supervisor can also serve as a work role stressor.

For example, Frone (2000) found that employees with greater interpersonal conflict with their supervisor reported decreased job satisfaction, decreased organizational commitment, and higher turnover intentions. Similarly, in a longitudinal study by Peiro, Gonzalez-Roma, Tordera, & Manas (2001), the authors found that stressors such as role conflict, overload, and role ambiguity were positively related to burnout.

Employees do react differently to stressors, and to varying degrees (Searle & Bright, 2003). It may appear less stressful having greater support, trust, favors, and communication in the in-group. Although there is evidence illustrating the positive side of high quality LMX relationships, not *all* employees are satisfied with this type of interaction (Harris and Kacmar, 2006). As discussed by Riolli and Savicki (2006), in a stressful situation, leadership makes an impact on an employee's perceptions of burnout and strain. Before I discuss the disadvantages of a high quality LMX relationship, I will introduce the concept of burnout and examine its role in the stress process.

Stressors and Burnout

Burnout has been described as a response to chronic interpersonal stressors on the job (Maslach, Schaufeli, & Leiter, 2001). It is a psychological phenomenon that consists of three main components: emotional exhaustion, a low perception of self-efficacy, and cynicism (Hetland, Sandal, & Johnsen, 2007). *Emotional exhaustion*, the first component, is described as being drained of emotional abilities. Emotional exhaustion may be considered the most important component of burnout because not only is it included is most measures of burnout, but more importantly it is most consistent in its relation to other variables (Halbesleben & Bowler, 2007). *Low self-efficacy*, the second component, is described as a decreased competence in one's professional work. And *cynicism*, the third component, refers to negative and apathetic feelings towards one's work. Burnout is most common in occupations where individuals are working with others in need of help and demanding assistance (Becker, Halbesleben, & O'Hair, 2005). A variety of factors have been shown to affect an employee's perception of burnout. However, given the emphasis of the current manuscript on LMX, I will focus my attention on factors that have been linked to both burnout and LMX.

One factor relevant to LMX and related to burnout is social support. Social support from one's supervisor has been shown to be inversely related with a subordinate's perception of burnout, and also associated with lower stress levels (Offermann & Hellmann, 2006). This finding is consistent with the previously discussed notion that those employees who experience leader support tend to have higher quality LMX relationships (Harris & Kacmar, 2006; Wayne et al., 1997). Not only is social support important between a subordinate and their leader, but also communication. As such, Becker, Halbesleben, & O'Hair (2005) examined how different types of communication were related to LMX and burnout.

The type of communication an individual has with their supervisor has been shown to affect LMX, which in turn can potentially affect stress and/or burnout (Becker et al., 2005). Specifically, Becker et al. examined the relationship between LMX and supportive communication and defensive communication. In contrast to supportive communication with one's manager, defensive communication includes one's perceived flaws, sensitivity, and defensiveness (Becker et. al.). Becker et al. found that those workers with lower quality LMX relationships had more defensive communication with their supervisor. In turn, defensive communication was positively related to burnout. In their study, Becker et al. also discussed how some of the strategies associated with improving LMX, such as goal setting, may lead to less defensive communication in the subordinate-leader dyad. Not only is the type or quality of communication significant, but the regularity of interaction between employee and employer. Specifically, Brouer and Harris (2007) examined the frequency of interaction with one's manager.

Rather important in the work environment is the amount of time a subordinate spends communicating with their superior, or frequency of interaction (Brouer and Harris, 2007). Brouer and Harris found that those individuals who had a high LMX relationship, but lower degree of interaction with their supervisor had the highest levels of work tension. In contrast, those who had a higher frequency of interaction and greater perceived LMX reported less work tension. Therefore, those individuals with high LMX experienced differing amounts of work tension as a function of how often they interacted with their supervisor. This example suggests that high quality LMX relationships may not necessarily be beneficial in all circumstances. Other than communication with one's supervisor, Santavirta, Soloviena, and

Theorell, (2007) examined how work related demands (e.g., work schedule, deadlines) and perceived autonomy can influence burnout, specifically in terms of emotional exhaustion.

Emotional exhaustion may arise with lower decision authority (e.g., autonomy) and higher demands put on employees (Santavirta et al., 2007). Santavirta et al. (2007) found that higher demands put on a subordinate had the greatest effect on burnout. With all of these factors playing a part in employee burnout and LMX, it seems it is possible for an employee to affect his/her LMX quality through particular work behaviors.

Interestingly, Lapierre and Hackett (2007) found that it is possible for a subordinate to influence their LMX relationship by performing more organizational citizenship behaviors (OCB). OCBs can be explained in terms of going up and beyond normal job duties in order to improve the workplace (i.e., sacrificing one's own time for the organization, helping co-workers, volunteering to take on extra responsibilities; Lapierre & Hackett, 2007; Organ, 2007). The significance of OCBs and its relation to stress and burnout will be discussed shortly. First though, I would like to return to the issue of high LMX not being universally beneficial.

LMX and Non-Linear Relationships

Previously mentioned was the notion that higher quality LMX relationships may not be advantageous to all employees. Past research has assumed that LMX is linearly related to different outcomes; for example, as LMX quality increases, stress incrementally decreases. As noted by Harris and Kacmar (2006), this linear assumption does not account for the fact that more stress is experienced by employees with the highest LMX quality when compared to those of moderate LMX quality. After controlling for variables such as job satisfaction, tenure, and gender, Harris and Kacmar found a curvilinear (i.e., a U-shaped) relationship

between LMX and stress. In essence, Harris and Kacmar found that, across individuals, stress decreased as LMX quality increased, but after this initial decrease, stress began to increase for those with the highest quality LMX. Similarly, Hochwarter (2005) demonstrated that a curvilinear relationship exists between LMX and job tension.

Hochwarter (2005) examined the relationship between LMX and job tension, and how it relates to positive and negative affectivity. Positive affectivity was described as being positive and engaged in work; negative affectivity was described as being sad, distressed, and disengaged in work. Hochwarter found that positive affectivity, negative affectivity, and LMX quality had interactive effects on experiences of job tension. For those individuals reporting lower job tension, they had low negative affectivity and low LMX, or high negative affectivity or positive affectivity with high LMX. Subordinates with the highest stress were found as having high negative affectivity with moderate LMX quality. These results (i.e., Harris & Kacmar, 2006; Hochwarter, 2005) provide further evidence that high LMX relationships may not be advantageous for everyone.

An explanation could be that those subordinates with higher LMX may feel more obligated to work harder and take on more organizational citizenship behaviors (OCBs) (Deluga, 1994; Harris & Kacmar, 2006). This extra load of OCBs could account for an increase in stress levels experienced by employees with the highest quality exchange with their superior. As previously mentioned, this could potentially result in burnout.

This curvilinear relationship raises the question: are supervisors over-dependent on those employees with high-quality LMX, which could potentially lead to more work stressors and burnout leading to higher turnover rates? Turnover is related to both burnout (Cropanzano, Rupp & Byrne, 2003) and strain (Riolli & Savicki, 2006) and potentially

detrimental to businesses. Although this study will not focus on turnover, it is a direct outcome of burnout. To this end, a discussion on the current study will connect these ideas of stress and burnout, and how they relate to LMX quality.

The Present Study

In 2005, 49% of full-time college students were working, and 30% of full-time college students were working 20 or more hours a week. Thus, in addition to the approximately 85% of part-time college students who were working in 2005, approximately two thirds of all college students ages 16-24 were working (U.S. Department of Education, 2007). As noted by Butler (2007), many working students report having difficulty managing their work and school responsibilities (e.g., work-school conflict); the integration and management of work and school demands puts a significant demand upon the resources of many working students. Of note too, recent research suggests that younger individuals are at risk of faster burnout rates in comparison to older workers (Randall, 2007). Given these issues, the present study examines the relationship between LMX quality, stressors, and perceived burnout among working college students within a longitudinal design.

As noted by Harris and Kacmar (2006), a limitation of past research on LMX has been a reliance on cross-sectional data. Through a longitudinal design, I examine how LMX changes (or remains constant) from the time an employee is new on the job till after being employed for a few months. Because younger employees burnout faster than older employees (Randall, 2007), the effect of increased stress and burnout may be more visible between relatively short lags. If this is the case, this may have important practical implications for organizations that employ a significant number of younger workers and how to help younger workers manage various work role stressors. Similar to the study conducted by Peiro et al

(2001), work role stressors will be assessed in terms of role conflict and work overload. The formal hypotheses to be tested in the current study are presented below.

H1: LMX at Time 1 will predict a) work role stressors (i.e., overload and role conflict), b) burnout and c) general life stress at Time 2.

H2: A curvilinear relationship will exist between LMX at Time 1 and a) work role stressors (i.e., overload and role conflict), b) burnout and c) general life stress at Time 2.

H3: The curvilinear relationship will be U-shaped such that individuals with moderate levels of LMX at Time 1 will report lower burnout at Time 2 compared to individuals with high or low LMX.

H4: Individuals who engage in OCBs at Time 1 will report higher burnout at Time 2.

Method

Participants and Procedure

In collecting data, the current study targeted current or recently graduated college students. As participation was voluntary, e-mail addresses were collected and the survey link was sent to participants. Student workers who have been newly employed at a job for a maximum of three months were eligible. Numerous sources were used to recruit participants (i.e. campus jobs, local restaurants, and businesses). Surveys were distributed via e-mail link to 112 student workers. Forty student workers completed the follow up survey (35.7% response rate). Participants were composed of 62.5% female, 35% male, with 1 anonymous. Seventy percent of the participants reported being Caucasian while 12 participants declined to respond. Average age of the respondents was 19.5 years, and 1.67 months was the average tenure at Time 1. College students not working a regular 40-hour work week provided various

job types, shifts, and hours worked. Of the 40 respondents, 35% worked regular daytime shifts, 30% had a flexible schedule (no set hours), and 15% reported having a rotating shift where their hours changed. A majority of the types of jobs were in the service industry (40%), another 12.5% worked in sales or related occupations, and 12.5% worked in professional settings. The average number of hours worked for respondents was 23.4 (*SD* = 19.13).

Due to the fact that LMX quality develops early on in employment (Liden, Wayne & Stilwell, 1993), it is sufficient to use this three-month criterion. Building on this idea, employees with higher tenure would already be situated at a particular LMX level, whereas by examining employees with less time on the job, a greater change in LMX quality may be observed. Also, by using individuals who have only been working for a few months, I effect controlled for other potential variables that may arise from longer work exposure (cynicism, stress, burnout) and thus create a more homogeneous sample. A second follow-up survey was distributed one month later to measure changes in perceived burnout, stressors, and LMX quality.

Measures

Leader-member exchange (LMX). LMX was assessed with the seven-item LMX scale (Scandura & Graen, 1984). An example of one item is: "How would you characterize your working relationship with your immediate supervisor?" Participants were asked to respond on a 4-point Likert-type scale (1 = less than average, 2 = about average, 3 = better than average, 4 = extremely effective).

Burnout. Burnout was assessed with the English translation of the Shirom-Melamed Burnout Measure (Shirom, Nirel, & Vinokur, 2005). This measure consists of three dimensions; emotional exhaustion, physical fatigue, and cognitive weariness. An example

item for the emotional exhaustion component is, “I feel I am not capable of investing emotionally in coworkers and customers.” An example item for the physical fatigue component is, “I feel burned out.” Finally, an example item of the cognitive weariness component is, “I have difficulty concentrating.” Participants were asked to respond on a 7-point Likert-type scale (1 = never to 7 = always) for all items. In addition to computing a score for each of the three components of burnout, an overall burnout score was also calculated.

General Life Stress. Stress was assessed with the seven-item Perceived Stress Scale (PSS, Cohen, Kamarck & Mermelstein, 1983). An example item is, “In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? Participants will be asked to respond on a 5-point Likert-type scale (1=never, 5=very often)”

Work Role Stressors. Three work role stressors were assessed; job control, role conflict, and work overload. *Job control* was assessed with the 6-item measure from Haynes et al. (1999). An example item for job control is “how often do you carry out your work in the way you think best? (1= not at all, 5= a great deal).” *Role conflict* was assessed with the 4-item measure from Ivancevich & Matteson (2005). An example item of role conflict is “At work, I can't seem to do my job because I am asked to do too many conflicting things.” *Work overload* was assessed with the 5-item measure taken from Thiagarajan et. al. (2006). An example item for work overload is “There are times when I cannot meet everyone’s expectations.” For both the role conflict and role overload measure participants were asked to respond on a 5-point Likert-type scale (1 = strongly disagree, to 5 = strongly agree).

Organizational Citizenship Behaviors. OCBs were measured with 9-item scale from Kelloway, Loughlin, Barling & Nault, 2002). Participants responded to how each statement

characterizes them (1= not at all characteristic, 5= very characteristic). An example item is "Volunteering to do things not formally required by the job."

Demographics. Participants were also asked to provide basic demographic information, such as their student status (e.g., hours held, academic standing), income, reason for employment, and turnover intentions. This information will help to analyze particular groups and trends within our data.

Results

Table 1 reports means, standard deviations, and bivariate correlations of major study variables. It is interesting to note that the average report for OCBs was 3.8 (out of 5; *SD* = .65). Most of the participants felt that they took an active role in volunteering and sacrificing their time for co-workers and the organization as a whole. Also referencing Table 1, LMX at Time 1 was strongly correlated with OCB at Time 1 ($r = .51$, $p < .01$). As an individual engaged in more OCBs, their LMX relationship was likely to improve. As might be expected, work overload was positively correlated with Burnout ($r = .46$, $p < .01$) and role conflict ($r = .49$, $p < .01$). It is also interesting to note that role conflict was not significantly correlated with Burnout or any of the three components of Burnout at Time 2.

Hypothesis 1 stated that LMX at Time 1 would predict a) work role stressors (i.e., overload and role conflict), b) burnout and c) general life stress at Time 2. LMX at Time 1 was predictive of Burnout at Time 2 ($r = -.45$, $p < .01$), all three components of Burnout (Physical, Cognitive, and Emotional), and general life stress at Time 2 ($r = -.33$, $p < .05$). Individuals with better LMX relationships with their supervisors at Time 1 could expect to have lower Burnout rates and lower stress at Time 2. However when looking at work role stressors, LMX was predictive at trend levels for overload ($r = -.28$, $p < .10$), but not

significant for role conflict (r = -.24, p > .10). There is partial support for Hypothesis 1as LMX predicted all variables except for role conflict.

Hypothesis 2 sought to examine if a curvilinear relationship existed between LMX at Time 1 and a) work role stressors (i.e., overload and role conflict), b) burnout and c) general life stress at Time 2. Hypothesis 2 was tested using hierarchical linear regression. In Step 1 the two control variables, Hours worked and tenure, measured at Time 1, were entered into the equation. Hours worked and tenure were controlled for due to the large variability of these variables within the sample. LMX, assessed at Time 1, was entered at Step 2, and the squared product of LMX was entered at Step 3. This same method of entry was used to predict role overload, role conflict, burnout, and the three components of burnout, all assessed at Time 2. The results of these analyses are reported in Tables 2 and 3.

For role overload, the final regression equation was not significant [F(4, 35) = 1.47, p > .05]. For role Conflict, the final regression equation was not significant [F(4, 35) = 1.60, p > .05]. Although the final regression equation was not significant, when the squared product term of LMX was entered into the equation, the beta weight was significant at trend levels (β = .32, p < .10). These variables did not account for enough statistical difference in relation to LMX

For Burnout, the final regression equation was significant at trend levels [(4, 35) = 2.47, p < .10]. As reported in Table 3, the linear effect for LMX was a significant predictor of burnout (β = -.42, p < .01). As LMX increased at Time 1, Burnout would be expected to decrease at Time 2. In essence, the better the LMX relationship one has with their supervisor, the less likely to report experiencing burnout at Time 2.

For the three components of burnout, significance at trend levels were found only for the emotional part of burnout [F (4, 35) = 2.17, $p < .10$]. For the physical component [F(4, 35) = 2.06, p =.11] and the cognitive component [F (4, 35) = 1.49, $p > .10$], no significance was found. For general life stress, the regression equation did not show significance [F(4, 35) = 1.57, p >.05]. Based on the regression analysis results, Hypothesis 2 is not supported as no curvilinear relationship exists between LMX and the tested variables.

Hypothesis 3 stated that individuals with moderate levels of LMX at Time 1 will report lower burnout at Time 2 compared to individuals with high or low LMX. Given that there was no curvilinear relationship found in Hypothesis 2, there is no support for Hypothesis 3. Individuals with moderate LMX were not statistically different from individuals with higher or lower LMX. Hypothesis 4 stated that individuals who engage in OCBs at Time 1 will report higher burnout at Time 2. OCBs at Time 1 were negatively correlated with the Emotional component of Burnout at Time 2 (r = -.37, $p < .05$) and overall Burnout at Time 2 (r = -.3, $p < .10$). Those workers with higher OCBs may actually have lower Burnout at Time 2. These results do not support Hypothesis 4.

Discussion

The objective of this longitudinal study was to examine the relationship between LMX, OCBs, stress, and burnout. Specifically, how current LMX levels and OCB engagement could predict stress levels and burnout one month later. This study took into account the recommendations of Harris and Kacmar (2006) to examine the longitudinal effects of LMX on stress and the interplay of OCBs on these variables. College age students were examined because younger workers may burnout quicker than older workers (Randall, 2007). The majority of past research examined only linear relationships between LMX and

stress. This study aimed to replicate the curvilinear relationship examined by Harris and Kacmar (2006) between LMX and stress using a longitudinal design. This study sought to expand on their research and discover a curvilinear relationship between LMX and burnout, and LMX and work role stressors.

Although no significant *longitudinal curvilinear* relationships were found, LMX was a significant predictor of burnout, stress, and overload through bivariate correlations overtime. Referencing Halbesleben & Bowler (2007), burnout's emotional component may be considered to be the most reliable component. The significance found at trend levels between LMX and the emotional component of burnout suggests that perhaps a curvilinear relationship may exist. With more participants, perhaps those employees with the highest LMX may actually experience more emotional burnout than those employees with moderate LMX. Individuals with better LMX relationships at Time 1 could be expected to have lower burnout, stress, and overload in the future. In only one month's time, burnout and stress could be predicted. Concerning implications, one can see how important the supervisor-subordinate relationship is. This is a significant finding as managers who are more aware of their specific management style can affect employee's burnout and stress through leadership (Riolli & Savicki, 2006). For example, a supervisor may promote an employee's potential by understanding the employee's preferred amount of support and communication.

Furthermore, Harris and Kacmar (2006) stated that data from various organizations would provide a different viewpoint and add a new perspective to this relationship. Harris and Kacmar found two different curves (in relation to LMX and stress) exclusively within two different organizations in a cross sectional design. Each of these organizations may have its own idiosyncrasies that create distinct stresses, hence why each curve was distinct from the

other. The diverse sample tested in the present study was composed of employees from various organizations and thus, different organizational stresses and relationships were included in the analysis. It may be argued that certain organizational cultures may promote certain LMX relationships and stress trends (Harkness, Long, Bermbach, Patterson, Jordan & Kahn, 2005). Additional research may explain why curvilinear relationships between LMX and stress may be more determined by organizational climate.

Future research should explore how the type of occupation may affect LMX- stress relationships. For example, in this study, the only stressor that was not found to be predicted by LMX was role conflict. Role conflict may be better predicted by the type of job or tasks that an individual performs, rather than LMX. For example, an employee in the service industry may have more opportunities for role conflict. Conflicts between the supervisor, customers, and other employees could be more frequent than an employee sitting in an office who only interacts with a supervisor.

As stated above, LMX and OCBs were positively correlated such that individuals who engaged in more OCBs did exhibit higher quality LMX relationships. Surprisingly, only the emotional component of burnout was correlated with OCBs. However, in contradiction to Hypothesis 4, engagement in OCBs appears to *lower* burnout over time. This finding may be explained by low tenure and/or cynicism. Cynicism is negative and apathetic feelings towards work (Hetland et. al., 2007). Cynicism, which is related to burnout, is a response to *chronic* stressors on the job (Maslach, Schaufeli & Leiter, 2001). Given that length of time on the job is a factor, it is possible that these younger workers, who are relatively new on the job, may not yet have developed cynicism. As cynicism increases, individuals may be less likely to volunteer and contribute their additional time and skills (Jordan, Schraeder, Field &

Armenakis, 2007). This can be supported with the high report of OCBs in this sample (*M* = 3.8). In essence, these employees have not been on the job long enough to reduce their OCB engagement. A study using a longer lag time may detect the development of cynicism and its affects. Additionally, a longer lag time may examine how OCB engagement changes over longer periods.

The one month lag used in this study may be too short to account for increased cynicism and reductions in OCB engagement. For example, the buildup of cynicism over time can lower OCB contributions (Jordan et al., 2007). In one month, individual workers may not have built up enough cynicism. If a longer lag were used, OCB engagement may decrease over time by way of an increase in employee cynicism. The one month lag may limit the ability to find changes in variables that take more time to develop (i.e., cynicism). The results do however show that one month is sufficient enough for LMX to predict burnout and stress.

Limitations.

Despite predictions made by LMX in the present study, a few limitations should be noted. First and most important, the lack of statistical power may be responsible for low significance in parts of the current set of analyses. As noted in Tables 1, 2, and 3 many calculations were just beyond statistical significance. With the many variations in job type, organizational culture, more participants are needed for scientific significance. Perhaps with more respondents, we can better explain the trends that were found. Second, the many different types of jobs may have a bigger effect on stress than was anticipated. Certain jobs may supply different stresses. For example, individuals working in the service industry may encounter different stress situations than an office worker. Added to the fact that individuals do react differently to stressors, and to varying degrees (Searle & Bright, 2003), there may be

opportunity for the type of job to have an affect on stress. As discussed above, different organizational cultures may bring about different (or different types) of stress. This study looked at how LMX was a predictor of stress and did not examine how types of job environments affected stress. Additionally, the number of hours worked per week (M = 23.4, SD = 19.13) were wide-ranging. The average number of hours worked (which could certainly affect stress levels, and frequency of interaction with one's supervisor) deviated significantly. These limitations certainly may have had effects on the results of this study.

Conclusion

In conclusion, the present study failed to find a curvilinear relationship between LMX and stress and/or burnout. However, it should be noted that this study does support the notion that the quality of relationship that an employee has with his/her supervisor can predict burnout and stress at a future time. Engagement in Organizational Citizenship Behaviors (OCBs) may affect the quality of LMX. Also, participation in OCBs may, in fact, lower burnout in the future. Studies concerning relationships in the workplace and how they affect stress levels and burnout should continue to be examined longitudinally. Future research should focus on this process of the causes of stress and burnout as to better prevent this emotional breakdown of employees. After all, it is the buildup over time of stress and burnout that is detrimental to business and organizational effectiveness. Future research should also examine how different organizational cultures produce various stress levels along with affecting LMX and burnout. These relationships in the workplace are vital to individual and organizational outcomes.

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Appendix

Leader-Member Exchange (Scandura and Graen, 1984)

Instructions: Read the following items and pick the response item that most describes how the statement is characteristic of you.

1) Do you usually feel that you know where you stand, do you usually know how satisfied your immediate supervisor is with what you do? *Always know where I stand* (4), *Usually know where I stand* (3), *Seldom know where I stand* (2), *Never know where I stand* (1).
2) How well do you feel that your immediate supervisor understands your problems and needs? *Completely* (4), *Well enough* (3), *Some but not enough* (2), *Not at all (I).*
3) How well do you feel that your immediate supervisor recognizes your potential1? *Fully* (4), *As much as the next person* (3), *Some but not enough* (2), *Not at all (I).*
4) Regardless of how much formal authority your immediate supervisor has built into his or her position, what are the chances that he or she would be personally inclined to use power to help you solve problems in your work? *Certainly would* (4), *Probably would* (3), *Might or might not (2), No chance (I).*
5) Again, regardless of the amount of formal authority your immediate supervisor has, to what extent can you count on him or her to "bail you out" at his or her expense when you really need it ? *Certainly would* (4), *Probably would* (3), *Might or might not* (2), *No chance* (1).
6) I have enough confidence in my immediate supervisor that I would defend and justify his or her decisions if he or she were not present to do so *Certainly would* (4), *Probably would* (3), *Maybe* (2), *Probably not* (1).
7) How would you characterize your working relationship with your immediate supervisor? *Extremely effective* (4), *Better than average* (3), *About average* (2); *Less than average (I).*

Work Role Stressor: Job Control, (Haynes et. al. 1999)

Instructions: Read the following items and pick the response item that most describes how the statement is characteristic of you.

Response scale: *not at all* (1), *just a little* (2), *a moderate amount* (3), *quite a lot* (4), and a *great deal* (5)

1) Determine the methods and procedures you use in your work?
2) Choose what work you will carry out?
3) Decide when to take a break?
4) Vary how you do your work?
5) Plan your own work?

6) Carry out your work in the way you think best?

Work Role Stressor: Role conflict, (Ivancevich & Matteson 2005)

Instructions: Read the following items and pick the response item that most describes how the statement is characteristic of you.

Response scale: *Strongly disagree* (1), *Disagree* (2), *Neutral* (3), *Agree* (4), and *Strongly Agree* (5)

1. At work, I am asked to do a lot of unnecessary projects
2. At work, I seem to receive conflicting requests from different people (e.g., co-workers, bosses)
3. At work, I do things that are accepted by one person and rejected by another
4. At work, I can't seem to do my job because I am asked to do too many conflicting things

Work Role Stressor: Overload, (Thiagarajan et. al. 2006)

Instructions: Read the following items and pick the response item that most describes how the statement is characteristic of you.

Response scale: *Strongly disagree* (1), *Disagree* (2), *Neutral* (3), *Agree* (4), and *Strongly Agree* (5)

1. I have to do things that I do not really have the time and energy for
2. I need more hours in the day to do all the things that are expected of me
3. I cannot ever seem to catch up
4. I do not ever seem to have any time for myself
5. There are times when I cannot meet everyone's expectations

Life Stress (Cohen, Kamarck & Mermelstein, 1983)

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

Response Scale*: 1 = Never, 2 = Almost Never, 3 = Sometimes, 4 = Fairly Often, 5 = Very Often*

In the last month, how often have you …

1. been upset because of something that happened unexpectedly?
2. felt that you were unable to control the important things in your life?
3. felt nervous and "stressed"?
4. felt confident about your ability to handle your personal problems?

5. felt that things were going your way?
6. found that you could not cope with all the things that you had to do?
7. been able to control irritations in your life?
8. felt that you were on top of things?
9. been angered because of things that were outside of your control?
10. felt difficulties were piling up so high that you could not overcome them?

OCB (Kelloway et al., 2002)

Instructions: Read the following items and pick the response item that most describes how the statement is characteristic of you.

Response Scale: *(1= not at all characteristic, 5= very characteristic)*

1. Helping other employees with their work when they have been absent
2. Volunteering to do things not formally required by the job.
3. Taking the initiative to orient new employees to the department even though it is not part of my job description.
4. Helping others when their work load increases (assisting others until they get over the hurdles).
5. Assisting supervisor with his/her duties.
6. Making innovative suggestions to improve the overall quality of the department.
7. Punctuality in arriving at work on time in the morning, and after lunch and breaks.
8. Exhibiting attendance at work beyond the norm, for example I take less days off than most individuals or less than allowed.
9. Giving advance notice if unable to come to work.

Shirom-Melamed Burnout Measure (SMBM) (Shirom et.al. 2006)

Instructions: Below are a number of statements that describe different feelings that you may feel at work. Please indicate how often, in the past 30 workdays, you have felt each of the following feelings:

Response Scale: *(1= never or almost never, 2=very infrequently, 3=quite infrequently, 4=sometimes, 5= quite frequently, 6=very frequently, 7= always or almost always)*

1. I feel tired (P)
2. I have no energy for going to work in the morning (P)
3. I feel physically drained (P)
4. I feel fed up (P)
5. I feel like my “batteries” are “dead” (P)
6. I feel burned out (P)
7. My thinking process is slow (C)
8. I have difficulty concentrating (C)

9. I feel I'm not thinking clearly (C)
10. I feel I'm not focused in my thinking (C)
11. I have difficulty thinking about complex things (C)
12. I feel I am unable to be sensitive to the needs of coworkers and customers (E)
13. I feel I am not capable of investing emotionally in coworkers and customers (E)
14. I feel I am not capable of being sympathetic to co-workers and customers (E)

Note. The letters after each item represent the three subscales of the Shirom-Melamed Burnout Measure (SMBM). The three subscales are: P = physical fatigue; E= emotional exhaustion; and C= cognitive weariness.

Table 1: Bivariate Correlations of Major Variables

Variable	Means	SD	1	2	3	4	5	6	7	8	9	10
Time 1												
1. LMX	2.92	.65										
2. OCB	3.81	.65	.51**									
3. Hours work/week	23.4	19.13	0.29	0.3								
4. Shift°	.65	.48	-0.13	0.12	-0.09							
Time 2												
5. Overload	2.17	.91	-0.28†	-0.09	-0.02	0.04						
6. Role Conflict	2.31	.88	-0.24	0.09	-0.07	-0.07	.49**					
7. Burnout	3.22	1.03	-.45**	-0.3†	-0.22	0.15	.46**	0.28				
8. Burnout- Physical	3.53	1.14	-.43**	-0.21	-0.14	0.14	.41**	0.23	.94**			
9. Burnout- Cognitive	3.19	1.25	-.33*	-0.23	-0.19	0.21	.52**	0.25	.90**	.79**		
10. Burnout- Emotional	2.66	1.25	-.39*	-.37*	-0.25	-0.03	0.13	0.23	.63**	.45**	.35*	
11. General Stress	2.53	.73	-.33*	-0.21	-0.27	0.07	0.20	0.12	.67**	.71**	.63**	0.25

** p < .01, * p < .05, † p < .10

° Coded as 0= day shift, 1= other shift

Table 2: Work Role Stressors - Regression

	Role Overload			Role Conflict		
Step 1	β	R^2	ΔR^2	β	R^2	ΔR^2
Hours	.03	.00	.00	-.05	.01	.01
Shift°	-.08			-.20		
Step 2						
LMX	-.25	.08	.08†	-.19	.07	.06
Step 3						
LMX^2	.27	.14	.06	.32†	.16	.09†

** p < .01, * p < .05, † p < .10

° coded as 0= day shift, 1= other shift

Table 3: Burnout and Burnout Components - Regression

	Burnout Overall			Burnout - Physical			Burnout - Cognitive			Burnout - Emotional		
Step 1	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2
Hours	-.08	.06	.06	-.01	.04	.04	-.09	.07	.07	-.14	.07	.07
Shift	.11			.09			.18			-.05		
Step 2												
LMX	-.42**	.22	.16**	-.42**	.19	.16	-.29	.14	.07	-.38	.18	.12
Step 3												
LMX^2	-.05	.22	.00	-.01	.19	.00	-.04	.15	.00	-.13	.2	.02

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

° coded as 0= day shift, 1= other shift

Table 4: General Life Stress - Regression

Step 1	β	R^2	ΔR^2
Hours	-.17	.07	.07
Shift°	.05		
Step 2			
LMX	-.3†	.14	.07
Step 3			
LMX^2	-.11	.15	.01

** p < .01, * p < .05, † p < .10

° coded as 0= day shift, 1= other shift