

## Revisiting the Relationship Between Time Management and Job Performance

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*According to popular belief, individuals who manage their time well are expected to have less stress resulting in higher levels of job satisfaction and performance. However, empirical evidence to date has been mixed with regards to the relationship between time management and job performance (Claessens, van Eerde, Rutte, & Roe, 2007). This study uses a sample of salespeople to further investigate the direct and moderator relationships that time management and two personal variables, locus of control and optimism, have with job performance. Results find both direct as well as moderator relationships. A discussion of the findings and implications follow.*

**Keywords:** Time management, dispositional optimism, locus of control and job performance

### 1. Introduction

Time management is defined as employee behavior that makes optimal use of time in the performance of purposeful activities. It is described as a blend of sensitivity for time, the setting of goals, prioritizing tasks, and monitoring outcomes (Claessens, van Eerde, Rutte, & Roe, 2007). This definition describes time management as an example of self-regulation enabling employees the opportunity to improve their performance, enhance learning ability and achieve career success (De Vos & Soens, 2008). In work environments and work designs characterized by flattened hierarchies with less supervision, telecommuting or other forms of remote work, and self-managed work teams, a self-regulatory skill such as time management is critically important where an increasing number of workers are required to plan, organize and control how they perform their own work (Frayne & Geringer, 2000).

The popular press generously treats time management as a tool capable of enhancing managerial effectiveness (cf., Gleick, 2000; Kramer, 2000; O'Keefe & Berger, 1999). Despite its intuitive appeal however, scholarly research suggests the relationship between time management and job-related performance at the individual level is at best mixed. A review of the time management literature from 2005 through 2010 in scholarly journals by way of ABI Inform was performed to compliment the findings of an earlier review produced by Claessens, et al. (2007) which, when combined

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## **Nonis, Fenner & Sager**

revealed the existence of only 5 studies testing the relationship between time management and job-related performance in non-student samples. Of these 5 studies, the relationship between time management behaviors and work-related performance was revealed as insignificant by Hafner and Stock (2010); Macan (1994); and Macan (1996) and weak by Claessens, van Eerde, Rutte, and Roe, (2004). However, Barling, Kelloway, and Cheung (1996) found time management behaviors moderated the relationship between the achievement striving dimension of Type A individuals and job performance among salespeople (the studies noted above tested for direct or indirect relationships between time management behaviors and job performance).

This study is driven by the Barling, et al. (1996) suggestion that the key to the improved understanding of time management's obscure relationship with job performance rests with exploring its contextual influence as an important employee skill-set. The authors in this study will extend prior research by exploring the time management's moderating effect on the individual differences of dispositional optimism and locus of control's impact on job performance. It is expected that unlike earlier studies where non-significant relationships were found linking time management with job performance, that time management's importance will be revealed when viewed as a moderator with a direct bearing on dispositional optimism and locus of control's relationship with job performance in actual work environments.

In the sections that follow the authors perform a review of the literature as it relates to time management, the individual differences of dispositional optimism and locus of control relationship, and their hypothesized relationships with job performance. The methodology section follows and illustrates how the research was performed and the means by which the data was analysed. This article concludes with a description of the study's findings, discusses the hypothesized and important non-hypothesized outcomes before closing by summarizing the implications and limitations of this research study.

## **2. Literature Review and Development of Hypotheses**

### **2.1 Time Management**

Two common methods of operationalizing the time management construct include the Time Management Behavior Scale (TMBS, Macan, et. al., 1990) and the time management questionnaire (TMQ, Britton & Tesser, 1991). The TMBS developed by Macan, et al. (1990) is a process model of time management that focuses on the influence of three distinct time management behaviors of (1) setting goals and priorities, (2) mechanics of time management or task scheduling, and (3) preference for organization that, in turn, influence work-related outcomes such as job performance when mediated by a person's perceived control of time. The factor structure of the TMBS has been studied frequently by time management scholars, and despite weaker than desired reliabilities for some of the dimensions, has been adopted as the default standard for time management research in a multitude of studies (Adams & Jex, 1999; Macan, 1994; Mudrack, 1997).

## Nonis, Fenner & Sager

The TMQ created by Britton and Tesser (1991) is a multi-dimensional instrument designed to assess a person's (1) attitudes towards time, (2) beliefs about short-term planning and (3) long-term planning. Two scales described as long-term and short-term planning were adapted from the TMQ and used by Barling, et al. (1996) and Trueman and Hartley (1996) as time management measures producing acceptable reliabilities. Although the psychometric properties of both scales can still be improved, the TMBS has been described as being the most reasonably sound of the two, which explains why it was adopted for this study (Claessens, et al., 2007).

### 2.2 Dispositional Optimism and Performance

Scheier, Carver, and Bridges (2001), describe dispositional optimism as a relatively enduring or stable personality characteristic. It describes someone who possesses the expectancy that positive or good things will occur when measured high on this uni-dimensional construct instead of anticipating negative or bad things when one measures low in this trait. In essence, the person tends to view the glass as being half full as opposed to being half empty.

Underlying Scheier and Carver's (1985) description of dispositional optimism is the notion that the optimistic person believes that the situation before them is one that is open to their influence. Thus, those who measure high on dispositional optimism are optimists who will dedicate greater effort toward achieving desired outcomes due to their felt ability to influence the attainment of these outcomes. In a different manner, those who measure low on this construct and who are deemed pessimists are more likely to diminish or even abandon their efforts in obtaining desired outcomes, because they lack this perceived influence (Scheier & Carver, 1988).

Optimists tend to be more willing to accept new ideas, new experiences and greater challenges than pessimists (Seligman, 1990). According to Seligman (1990), optimists are less likely to engage in self-defeating behavior such as rumination because they expect success and consider failure but, a momentary relapse. Consequently, he suggests that optimists are free to direct more of their cognitive skills in dealing with new or emerging opportunities. As a result, optimists tend to be more capable of coping or managing difficult circumstances, by gathering the resources and putting forth the necessary effort for solving problems and navigating uncertainty. According to Aspinwall, Richter and Hoffman (2001), "there is ample evidence across a wide range of stressors that optimists are more likely to engage in active coping and less likely to engage in avoidant coping" (pg. 234). Optimists are expected to respond to problems and challenges by seeking out alternatives, and setting up the best time to apply these alternatives as the means for negotiating the challenges they confront. Pessimists will instead cope by dismissing or disregarding the problems they confront and thus, fail to manage and avoid dealing with the problem (Papenhausen, 2006).

Finally in accordance with the Theory of Learned Helplessness, when facing adversity those who measure high on dispositional optimism are less likely to reduce their efforts or to display behaviors inconsistent with task achievement, whereas those who

## Nonis, Fenner & Sager

measure low on dispositional optimism tend to lower their effort and are less inclined to engage in task oriented behaviors and, in turn exhibit characteristics of helplessness (Peterson & Seligman, 1984). Thus, we believe as suggested by Schulman (1999) that those who measure high on dispositional optimism will, in turn, perform better in their jobs.

**H1:** Dispositional optimism is positively related with performance, such that as dispositional optimism increases, job performance is expected to increase.

### 2.3 Locus of Control and Performance

Locus of control is one of four core self-evaluation traits, which are reflective of the ability to influence both motivation and performance (Judge, Locke, & Durham, 1997). Locus of control is defined as an individual dispositional characteristic that captures a person's perception as to the source of the influence for those events and outcomes they experience in life (Rotter, 1966). A person who possesses an external locus of control is one who feels that those events that influence their lives and well being lie largely outside their control and rest with luck, fate and the actions of powerful others. On the other end of the continuum, a person who exhibits an internal locus of control is one who views his or herself as substantially being in control of events that affect them, and tend to assume personal accountability for the outcomes they experience. That said, Spector (1982), in a review of the locus of control literature, suggested that those people deemed as internals trend towards higher levels of performance than do externals.

Strong support exists for internal locus of control as a determinant of activity and performance in the work place. Scholars of organizational behavior have determined that internals are inclined towards experiencing higher levels of job satisfaction than their external co-workers, tend to be better performers (Behrman and Perreault 1984), report lower role stress (Newton and Keenan, 1990), and perceive greater autonomy and control when at work (Anderson, 1977). People with an internal locus of control are also expected to adapt and perform more successfully in the more autonomous jobs found in the new and evolving work designs in organizations where the employee is expected to be a self-starter and self-improver. Jobs found in flattened hierarchies or in job designs characterized by growing numbers of remote workers where the employee assumes greater responsibility for their own best future (Parker, 2007).

Additional reasoning that supports the higher performance expectations for internals is inferred by the manner in which they react to the everyday stressors found in the work place. Workers with an internal locus of control are less frustrated by the uncontrollable factors inherent in their work environment since they feel they have the power to overcome these challenges. Externals on the other hand are more inclined to succumb to the hardships sprung upon them at work since they perceive little or no control over these events (Srivastava & Sager, 1999). Internals are described as people who believe that the outcomes that accompany life are controlled by their own actions. They are inclined to enact behaviors that will afford them control. This conclusion can be explained in part by Control Theory, which suggests that when an

## Nonis, Fenner & Sager

internal's performance falls short of expectation they are apt to intensify their efforts in order to align their performance with their beliefs (Lord & Hanges, 1987).

Lastly, in a meta-analysis performed by Judge and Bono (2001), a positive non-zero 80% credibility interval was found to exist between a high internal locus of control and performance with an average corrected correlation of .22. This compares very favourably to Barrick and Mount's (1991) true score correlation of .23 for conscientiousness as a highly respected predictor of job performance across all occupations. Therefore, we believe that a high internal locus of control will be positively related to job performance.

**H2:** Internal locus of control is positively related with performance, such that as internal locus of control increases, job performance is expected to increase.

### 2.4 The Contingency Effect of Time Management

The time management skills or behaviors of (1) setting goals and priorities, (2) mechanics for time management or task scheduling and (3) preference for organization are expected to interact positively with dispositional optimism. The optimist possesses an overarching confidence that instils in him or her, the motivation, persistence and enthusiasm to tackle challenging goals and objectives (Carver & Scheier, 2003). The optimist copes with difficulty and adversity by developing a checklist for action and then executing a plan designed to solve the issues at hand (Carver, Scheier, & Weintraub, 1989). Lastly, although confident of their ability to achieve important objectives and motivated to apply requisite effort, the optimist is often criticized for not possessing the appropriate organization skills or the ability to visualize how they will achieve their goals (Scheier, Carver, & Bridges, 2001). In essence, the optimist tends to direct more effort towards testing and exploring a variety of new ways of gaining knowledge of all that is possible and not known, instead of organizing in one's mind the best way of achieving that which needs to be known.

Workers who excel at time management attempt to achieve a greater number of goals and objectives than available time would ordinarily permit and tend to adopt work strategies that enable them to improve work efficiencies (Rastegary & Landy, 1993). The time management ability of setting goals and priorities is expected to amplify the results achievable by the optimist who already possesses a penchant for persistence and enthusiasm for obtaining their desires. The time management behavior of setting goals and priorities will enable the optimist to more skilfully develop superior, measurable and challenging goals that despite their being optimistic, remain attainable.

**H3:** The time management skill of setting goals and priorities moderates the relationship between dispositional optimism and job performance. The relationship between dispositional optimism and job performance is stronger and more positive as the use of the time management skill of setting goals and priorities increases.

In addition, the time management skill of mechanics of time management or task

## Nonis, Fenner & Sager

scheduling is expected to further assist the optimist who is already identified as one who relies upon carefully crafting strategies as a coping tactic for dealing with the difficulties and obstacles they face on a day-to-day basis. Enhanced scheduling capabilities where one is less likely to neglect important action steps will better equip the person who is already committed to sound preparation for successfully dealing with adversity and unforeseen contingencies.

**H4:** The time management skill of mechanics of time management or task scheduling moderates the relationship between dispositional optimism and job performance. The relationship between dispositional optimism and job performance is stronger and more positive as the use of the time management skill of planning increases.

People measuring high on dispositional optimism tend to feel that anything is possible. They are also prone towards approaching some of the challenges they face without a clear vision of how they are to tackle these challenges. The time management skill of preference for organization aids the optimist by replacing a shotgun approach of dealing with obstacles and hoping one hits the target and, replaces it with a well organized process that carefully aims their efforts towards achieving the desired outcomes.

**H5:** The time management skill of preference for organization moderates the relationship between dispositional optimism and job performance. The relationship between dispositional optimism and job performance is stronger and more positive as the use of the time management skill of preference for organization increases.

Time management behaviors are also expected to interact positively with locus of control and performance. After all, a person with an internal locus of control maintains a goal orientation such that when there is a disparity between expectation and actuality, a tension is produced within the internal which, results in him/her expending greater effort to reach a given performance objective. The internal who feels confident with their ability to arrange and schedule their activities serves to boost their confidence since they know that no stone has been left unturned in their quest to pursue a plan designed to produce some intended result. Finally, people who are more internal tend to spend more time gathering and organizing task related knowledge and using this information to shape their work related outcomes (Roth, 1995). They do this because they realize they possess the capacity to shape their own outcomes and seek every advantage in doing so. Therefore, high internals who have mastered the ability of prioritizing their tasks and establishing specific and difficult goals are expected to maximize job performance. They recognize the importance of stretching their own efforts to compensate for any discrepancy between the expectation of obtaining difficult objectives and real world realities.

**H6:** The time management skill of goal setting and prioritizing moderates the relationship between locus of control and job performance. The relationship between locus of control and job performance is stronger and more positive as the use of the time management skill of goal setting and prioritizing increases.

## Nonis, Fenner & Sager

It is also expected that internals who are more effective at mechanics of time management or task scheduling will, due to the confidence they hold in their own abilities and the personal accountability felt for executing well-orchestrated plans, enjoy higher levels of performance.

**H7:** The time management skill of mechanics of time management or task scheduling moderates the relationship between locus of control and job performance. The relationship between locus of control and job performance is stronger and more positive as the use of the mechanics of time management or task scheduling increases.

Lastly, the importance of organization and locus of control cannot be overlooked. In the long run preparation, arranging and structuring one's task related efforts are expected to have a positive impact on performance. Internals are more likely to commit the time necessary to gather the critical task-related information more efficiently and effectively when they additionally possess the time management skill of preference for organization.

**H8:** The time management skill of preference for organization moderates the relationship between locus of control and job performance. The relationship between locus of control and job performance is stronger and more positive as the use of the time management skill of preference for organization increase.

### 3. The Methodology

The study's sample consisted of full-time salespeople employed by 23 automobile dealerships located in the southeastern and southwestern U.S., and salespeople from two divisions of a national specialty chemical company who were attending a sales conference in the southwestern US. The rationale underlying the use of salespeople as a convenience sample rests with the commonality found in a wide variety of sales positions where they are expected to be self-starters and self-improvers, In essence, the role of the sales person remains very similar across a wide variety of sales roles whether they are retail inside, retail telephone, retail outside, industrial inside, industrial telephone-based, or industrial outside. The semi-autonomous nature of the sales job suits the assumption that time management skill as a self-regulatory tool can be proposed, relationships between time management skills and other constructs specified and examined, generalizable findings to a narrow audience derived, and forms of intervention developed.

Pencil and paper survey instruments were distributed by the researchers to the salespeople from these 24 firms of which, 98 completed and useable surveys from the auto dealership and 103 completed and usable surveys from the chemical company were received. The average age of the respondents was 40.74 years of age with a standard deviation of 10.25. The gender of the respondents sampled was split 80.9% male and 19.1% female. The average number of years experience as a salesperson amounted to 13.77 with a standard deviation of 10.18, and the mean tenure with one's existing employer amounted to 7.37 years with a standard deviation of 7.67.

# Nonis, Fenner & Sager

## 3.1 Measures

Dispositional Optimism was operationalized with use of the Life-Orientation Test (LOT) developed by Scheier and Carver (1987). This 8-item instrument with 5 response options ranging from “strongly disagree” to “strongly agree” has consistently produced acceptable coefficient alphas as demonstrated by Papenhausen (2006). Examples of items from this scale are “in uncertain times I usually expect the best” or “things never work out the way I want them to” (reverse scored).

Locus of Control was measured using Spector’s (1988) 8-item/6-point scale ranging from “disagree very much” to “agree very much”. Examples of items pulled from this scale include: “when it comes to landing a really good job, who you know is more important than what you know” and “getting the job you want is mostly a matter of luck”.

Time Management was assessed using the Time Management Behavior Scale (TMBS) developed by Macan, et al., (1990). This study relied upon the abbreviated use of 15 of the 29 original items tested by Macan (1994) for the dimensions of (1) setting goals and priorities, (2) mechanics of time management or task scheduling and (3) preference for organization. The use of a shortened TMBS has been determined to be acceptable in time management research by scholars who have studied the psychometric properties of the time management measurement scales (Mudrack, 1997).

Job Performance was established by adapting 7 items from Beherman and Perreault’s (1982) self-rated sales performance measure. Churchill, Ford, Hartley and Walker’s (1985) meta-analysis argued the self-ratings of sales performance correlated highly with reported job performance tendered by their sales managers. The use of self-reported ratings of job performance ratings by sales people is used commonly in sales and marketing research (Chonko, Loe, Roberts, & Tanner, 2000). In this study, 2 different responses were obtained for each performance item. Respondents first indicated how they felt they ranked within their organization on 7 specific behavioural dimensions such as “sales presentation effectiveness” on a 3-point Likert scale ranging from 1 = “top third”, 2 = “middle third” or 3 = “bottom third”. Respondents then indicated their perceived importance level for the same dimension on a 5-point Likert scale ranging from 1 = “unimportant” to 5 = “important”. Products of the two responses for each dimension were summed to achieve a mean performance score for each respondent.

Control Variables of sales experience in “years worked” were included due to the ability of experience on the job to influence job performance (Schmidt & Hunter, 1998). Additionally, to control for potential variations in the differences among the three sample groups (the auto dealership salespeople and the sales people representing two sales divisions at the specialty chemical company), two dummy variables of D1 and D2 were created.



### 3.2 Analytical Approach

All hypotheses were tested using moderated multiple regression (Cohen & Cohen, 1983). First, the dependent variable job performance was regressed on the control variables of that distinguished the type of sales organization (the two dummy variables D1 & D2) and years of sales experience. In the second step, an independent variable (locus of control or dispositional optimism) was additionally entered. In the third step, each of the 3, time management dimensions were entered and, in the fourth step the interaction terms were added. This process involved running 8 regression analyses. Hypotheses 1 & 2 which tested the direct relationships between the two independent variables of dispositional optimism and locus of control were evaluated in step 2 noted above in the moderated regression process. The remaining six hypotheses that investigated the interactions were tested in step 4 (hypotheses 3 through 8). This process also facilitated investigating potential non-hypothesized relationships between the moderator variables where time management behaviors served solely as independent variables.

Since the equations used in moderated multiple regression include individual predictors and cross-product terms (Cohen & Cohen, 1983), potential for multicollinearity increases greatly (Cronbach, 1987). To ascertain the extent of potentially harmful collinearity, variance inflation factors were examined (Neter, Wasserman, & Kutner, 1990). To alleviate potential collinearity, a residual-centering procedure detailed by Lance (1988) was adopted. The procedure uses residuals of the interaction terms, as opposed to the interaction terms themselves. Variance inflation factors (VIF) for main effects and the residual interaction terms showed that none exceeded the value of 1.5, a value well below the recommended cut-off value of 10 that suggests collinearity. Since units of measurement were not the same in all the variables investigated, standardized scores for all variables were used.

## 4. The Findings

Table 1 summarizes the descriptive statistics, pairwise correlations, and alpha reliabilities revealed in the study. All measures used exhibited acceptable reliabilities as per Nunnally (1978). It is noteworthy that all study variables demonstrated significant bivariate relationships with job performance and all relationships were in the expected direction.

Results using moderated multiple regression analyses are provided in Tables 2 and 3. Hypothesis 1 that predicted dispositional optimism to be positively related with performance was supported as indicated in Table 2 ( $t = 4.81, p < 0.05$ ).

## Nonis, Fenner & Sager

**Table 1: Means, Standard Deviations, Correlations, and Reliability Coefficients**

Variable	<u>Mean</u>	<u>SD</u>	1	2	3	4	5	6	7
1. Locus (LOC)	2.27	.98	(.87)						
2. Optimism (DPO)	3.87	.60	-.37 <sup>1</sup>	(.82)					
3. TM1	3.32	.90	-.28 <sup>1</sup>	.48 <sup>1</sup>	(.82)				
4. TM2	3.46	.94	-.30 <sup>1</sup>	.31 <sup>1</sup>	.52 <sup>1</sup>	(.69)			
5. TM3	4.05	.78	-.33 <sup>1</sup>	.34 <sup>1</sup>	.28 <sup>1</sup>	.49 <sup>1</sup>	(.70)		
6. Job Performance	11.35	2.46	-.15 <sup>1</sup>	.32 <sup>1</sup>	.43 <sup>1</sup>	.24 <sup>1</sup>	.13 <sup>1</sup>	(.80)	
7. Sales experience	13.77	10.18	-.21 <sup>1</sup>	.18 <sup>1</sup>	.22 <sup>1</sup>	.12	.10	.21 <sup>1</sup>	-

<sup>1</sup> significant at  $p < 0.05$

Reliability coefficients appear on the diagonal within parentheses.

TM1 = Setting goals and priorities, TM2 = Mechanics, TM3 = Preference for organization

**Table 2: Results from Moderated Multiple Regression for Dispositional Optimism, Time Management Behaviors, and Job Performance**

Variables	TM1			TM2			TM3		
	<u>Slope</u>	<u>t-value</u>	<u>R<sup>2</sup></u>	<u>Slope</u>	<u>t-value</u>	<u>R<sup>2</sup></u>	<u>Slope</u>	<u>t-value</u>	<u>R<sup>2</sup></u>
<u>Step 1</u>			0.10			0.10			0.10
D1	0.21	0.99		0.21	0.99		0.21	0.99	
D2	0.58	3.00 <sup>1</sup>		0.58	3.00 <sup>1</sup>		0.58	3.00 <sup>1</sup>	
Experience	0.26	3.61 <sup>1</sup>		0.26	3.61 <sup>1</sup>		0.26	3.61 <sup>1</sup>	
<u>Step 2</u>			0.20			0.20			0.20
DPO	0.32	4.81 <sup>1</sup>		0.32	4.81 <sup>1</sup>		0.32	4.81 <sup>1</sup>	
<u>Step 3</u>			0.30			0.25			0.21
TMB	0.35	5.00 <sup>1</sup>		0.23	3.20 <sup>1</sup>		0.09	1.23	
<u>Step 4</u>			0.30			0.25			0.21
DPO * TMB	0.00	0.00		0.01	0.01		-0.01	-0.10	

<sup>1</sup>  $p < 0.05$

D1= Dummy variable, D2= Dummy variable, TM1= Goal setting & prioritization, TM2= Mechanics, TM3= Preference for organization, DPO= Dispositional optimism, TMB= Time management behavior.

However, the positive relationship expected between locus of control and job performance (hypothesis 2) was not supported ( $t = 1.63, p > 0.05$ ) (table 3). Also, all expected interactive effects derived from the 3 time management behaviors and dispositional optimism on job performance were not supported (hypotheses 3, 4 and 5). However, the final three hypotheses (6, 7, and 8) were supported, suggesting that the time management behaviors of goal setting and prioritizing (slope coefficient = -0.12,  $p$

## Nonis, Fenner & Sager

< 0.05), mechanics of time management or task scheduling (slope coefficient = -0.15,  $p < 0.05$ ), and preference for organization (slope coefficient = -0.15,  $p < 0.05$ ) were found to moderate the relationships between locus of control and job performance.

**Table 3: Results from Moderated Multiple Regression for Locus of Control, Time Management Behaviors, and Job Performance**

Variables	TM1			TM2			TM3		
	Slope	t-value	R <sup>2</sup>	Slope	t-value	R <sup>2</sup>	Slope	t-value	R <sup>2</sup>
<u>Step 1</u>			0.10			0.10			0.10
D1	0.23	1.15		0.23	1.15		0.23	1.15	
D2	0.61	3.20 <sup>1</sup>		0.61	3.20 <sup>1</sup>		0.61	3.20 <sup>1</sup>	
Experience	0.27	3.75 <sup>1</sup>		0.27	3.75 <sup>1</sup>		0.27	3.75 <sup>1</sup>	
<u>Step 2</u>			0.12			0.12			0.12
DPO	-0.12	-1.63		-0.12	-1.63		-1.12	-1.63	
<u>Step 3</u>			0.28			0.19			0.14
TMB	0.42	6.42 <sup>1</sup>		0.29	4.11 <sup>1</sup>		0.16	2.19 <sup>1</sup>	
<u>Step 4</u>			0.30			0.22			0.17
DPO * TMB	-0.12	-1.96 <sup>1</sup>		-0.15	-2.12 <sup>1</sup>		-0.15	-2.29 <sup>1</sup>	

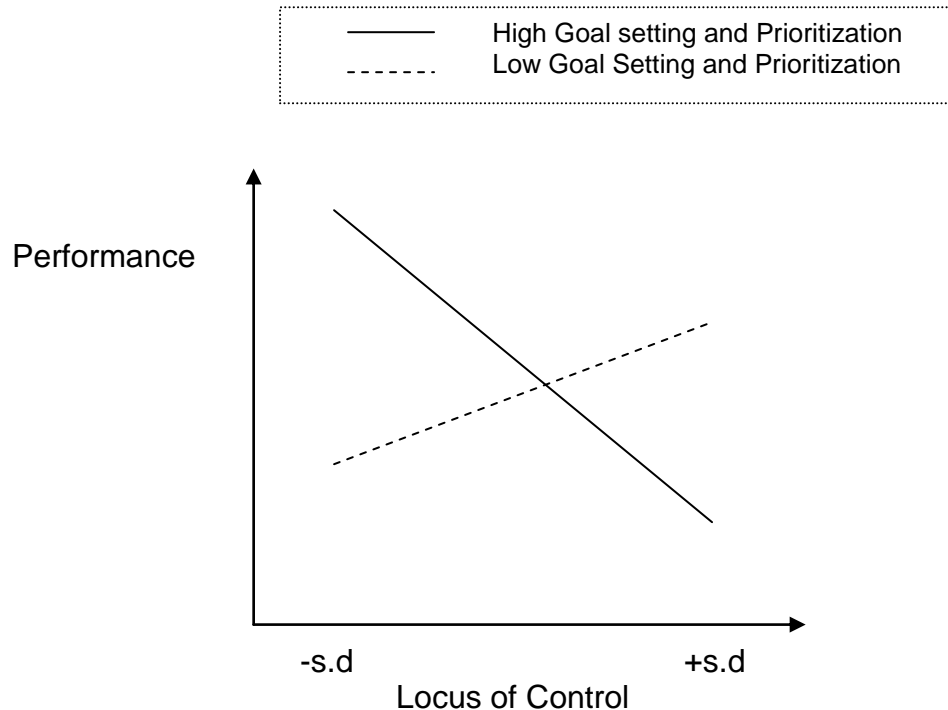
<sup>1</sup>  $p < 0.05$

D1= Dummy variable, D2= Dummy variable, TM1= Goal setting & prioritization, TM2= Mechanics, TM3= Preference for organization, DPO= Dispositional optimism, TMB= Time management behavior.

Figure 1 below shows the interaction of subjects with an internal locus of control and the time management behavior of goal setting and prioritization with job performance. Values representing plus and minus 1 standard deviation from the mean on each of these time management behaviors were used to generate the plotted regression lines (Cohen & Cohen, 1983). This interaction plot offers visual support for our hypothesis 6 suggesting the relationship between locus of control and performance was stronger or more positive when respondents possessed high goal setting and prioritizing skills. Interaction plots for mechanics of time management and preference for organization were identical to Figure 1, but are not provided here because of space limitations.

## Nonis, Fenner & Sager

**Figure 1: Interaction of locus of control and goal setting and prioritizing with job performance**



### 5. Discussion and Implications

Support for hypothesis 1 linking dispositional optimism to job performance was not all that surprising. After all, prior research suggests that optimists are more likely than their pessimistic co-workers to exert greater effort toward obtaining the outcomes they desire due simply to their belief that they are capable of obtaining these outcomes (Scheier & Carver, 1988).

The lack of support for the second hypothesis and the expected relationship between locus of control and job performance was not expected. The literature is ripe with descriptions of those measuring higher on an internal locus of control as holding greater control over their behaviors, tending to be more persuasive of others, exhibiting more political behavior and in assuming that their efforts will lead to performance. Unlike their more external co-workers, internals are more likely to take an active role in identifying information or knowledge important for achieving successful performance related outcomes (Judge & Bono, 2001; Rotter, 1966; Spector, 1988). However, Spector (1982) also cautions that the superior performance of those measuring high on internal locus of control may be tempered to the extent that they feel their performance will not lead to valued rewards. In such situations, the performance of internals versus externals may not be all that different. Expectancy theory underscores the importance of a similar construct referred to as instrumentality or the belief that one's performance will lead to rewards that are deemed highly valent. High instrumentality when accompanied by high expectancy or the belief that one's efforts will lead to performance, will contribute to greater effort or motivation when

## Nonis, Fenner & Sager

outcomes are considered attractive. However, the absence of expectancy, instrumentality or highly valent outcomes will have a detrimental effect on effort or motivation (Vroom & MacCrimmon, 1968). Perhaps all sales positions are not created equal and the sales positions held by the respondents in this study were deemed to be lower on the “pecking order” of what is considered a high quality sales position, capable of producing the desirable rewards or outcomes important for an internal locus of control to influence effort and job performance.

Support was also obtained for hypothesized expectations (H6, H7 & H8) that time management behavior moderated the relationship between locus of control and job performance (Table 3). Locus of control only had a positive influence on job performance for those who used time management behaviors more frequently and not for others. In other words, influence of time management behaviors on performance was greater for individuals who possessed a more internal locus of control and not for those measuring as more external. The findings corroborate research findings reported by Barling, et al. (1996), wherein effects of time management behaviors were found to vary systematically across individual level characteristics such as achievement striving used in their study.

However, the results did not support any of the hypotheses (H3, H4, and H5) that time management behaviors would serve to moderate the relationship between dispositional optimism and job performance. One plausible explanation for this lack of support may rest with time management altering the optimism-to-job-performance relationship in a non-linear or step-wise fashion. In such situations, dichotomizing the moderator variable is necessary (Baron & Kenny, 1986). To explore this alternative logic post-hoc, high and low time management groups for each of the three dimensions were created using three median splits. Six regression models were performed. When the group containing those who used goal setting and prioritizing less often were selected ( $n = 96$ ), the regression model that contained optimism as the independent variable associated with performance demonstrated a non-significant interaction ( $F=1.03$ ,  $p > 0.05$ ;  $r^2 = 0.01$ ). However when those who used goal setting and prioritizing more frequently were selected ( $n = 96$ ), the regression model that included optimism as the independent variable demonstrated a significant interaction ( $F = 12.19$ ,  $P < 0.05$ ;  $r^2 = 0.12$ ). Similar results were obtained for the low and high groups of mechanics of time management or task scheduling and optimism. For the low group ( $n= 95$ ) that consisted of those who used mechanics of time management less often, the model illustrating the interaction was not significant ( $F = 3.01$ ,  $p > 0.05$ ;  $r^2 = 0.03$ ) but for the high group ( $n = 97$ ) the model suggested a significant interaction ( $F=19.88$ ,  $p < 0.05$ ;  $r^2 = 0.17$ ). These results suggest for those measuring high on dispositional optimism who use goal setting and prioritizing as well as mechanics of time management or task scheduling more frequently tend to report higher levels of job performance than those workers exhibiting less frequent use of time management skills. For the low and high groups of time management dimension preference for organization, both models were significant (for the low group  $F=13.58$ ,  $p < 0.05$ ,  $r^2 = 0.13$ ; and for the high group  $F=6.59$ ,  $p < 0.05$ ;  $r^2 = 0.06$ ).

## Nonis, Fenner & Sager

Regarding the non-hypothesized observations of the direct positive relationship of time management behaviors' relationship with job performance illustrated in tables 2 and 3, this was considered an interesting finding. All time management behaviors (except for mechanics of time management or task scheduling when in the presence of dispositional optimism) demonstrated significant positive relationships, over and above that which was accounted for by the control variables and independent variables. This is shown by the significant slope coefficients and increases in the coefficient of determination ( $r^2$ ) in the third step of the moderated multiple regression procedure (Tables 2 and 3).

In terms of use of time management behaviors, preference for organization was the most often used time management dimension followed by mechanics of time management or task scheduling, and goal setting and priorities as indicated by the means found in Table 1. However, in terms of the influence these behaviors have with job performance perceptions, goal setting and prioritizing had the strongest impact (variance in job performance explained is 16% when locus of control was the predictor and 10% when dispositional optimism was the predictor as indicated by the increase in  $r^2$  values in step 3) followed by preference for organization (variance explained is 7% when locus of control was the predictor and 5% when dispositional optimism was the predictor), and mechanics of time management of task scheduling (only 2% of the variance explained when locus of control was the predictor and no variance being explained when dispositional optimism was the predictor) as found in Tables 2 and 3. These findings clearly have practical implications for employees as well as training that are summarized below in the practical implications.

### 5.1 Practical Implications

Findings of this study have practical implications for those who are interested in enhancing productivity by managing time better. This study suggests that time management has both direct and moderator relationships with job performance and, as such, better time management practices may enhance job performance. This is important in today's world of business that faces continued pressure to flatten hierarchies and promote flexibility in the face of globalization, deregulation and competition. As a consequence, work is undergoing a transformation with fewer levels of supervision, increased use of teams and creation of remote work forms performed in non-traditional places puts increased importance on self-regulation skill of workers to maximize the use of time.

One can infer from the findings summarized in Tables 1, 2 and 3 that present use of time management practices by workers or, in this case, salespeople may not, in and of itself be the most effective. Managers need to realize that setting goals and prioritizing (i.e. reviewing goals, setting priorities, setting deadlines) influences job performance the most. However, the desire to be organized (preference for organization such as leaving a clean workplace or structuring one's work for maximum efficiency) is the most commonly used time management behavior found in this study, and in others (Macan, 1996). Nonetheless, this particular dimension of time management holds the weakest relationship with performance. Perhaps establishing a routine and maintaining an

## **Nonis, Fenner & Sager**

organized and clean work environment makes the individual salesperson feel productive, despite the objective reality that may suggest something to the contrary. Evidence needs to be shared with employees and managers that time management behaviors involved in setting goals and prioritizing have the strongest impact on their performance on the job.

Additionally, this study's results hold indirect utility with regard to training applications. Because research has found that time management training influences the allocation of time that participants spend on various time management behaviors or practices (Orpen, 1993), results from this study suggest areas of time management applications for those developing training programs that call for emphasis in any time management training program. On the other hand, a caveat exists relative to time management training, since little empirical support exists to support the notion that such training leads to an increased use of specific time management behaviors (Macan, 1994).

### **6. Limitations**

Although this study advances our current understanding of how time management influences job performance, this study is not without limitations. First, with respect to the sample of respondents whose responses were studied it was comprised 100% by sales people. By virtue of their profession as sales people who deal with constant rejection while remaining hopeful that they will close the next sales call, may by their very nature be self-selected as more optimistic in their outlook. Thus, generalizability of these findings to employees in non-sales work settings is problematic without replicating this study in a broader cross-section of work environments.

Second, concern for common method variance is always a concern when using self-reported data for both independent and dependent variables. This threat is mitigated somewhat, in that self-reports of time management behaviors have been shown to converge with non-self-reported time management measures (Macan, 1994). However, it would be beneficial for future studies to have multiple methods of measurement for time management behaviors and job performance (i.e., actual job performance scores obtained from supervisory ratings).

Finally, the influence that time management has on the relationship between dispositional optimism and performance may not be linear as stated in the discussion. Each of these limitations provides opportunities for future research at a time when workers and organizations alike are seeking ways to be more productive by more effectively managing one of their most important assets, their time and the ability of managing time to influence key outcomes such as job performance.

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