



An Examination of Self-Leadership

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The increased competition that some organizations face requires change from traditional management to shared leadership. Employees who possess personal attributes such as need for autonomy and general self-efficacy may be more likely to take responsibility and work effectively in empowered environments. These employees may also be more likely to make efforts to improve their individual performance, such as making use of self-leadership strategies. This study examines individual differences that may influence the use of self-leadership strategies. The results of the study show a positive significant relationship between general self-efficacy and use of natural reward, constructive thought, and general self-leadership skills. The study finds women are more likely than men to use behavior-focused, natural reward, constructive thought, and general self-leadership skills.

The increased competition that some organizations face requires a change from traditional management of employees with command-and-control leadership to shared leadership among employees in the organization (Arnold, Arad, Rhoades, & Drasgow, 2000; Pearce, 2007). Rather than top-down structures where leaders make decisions, some contemporary organizations need employees to take more responsibility and participate in decision making (Costello, Brunner & Hasty, 2002). These changing conditions require leaders who are capable of helping employees become self-leaders and followers with interest in sharing leadership responsibility (Stewart, Manz & Sims, 1999).

Employees who possess personal attributes such as need for autonomy and general self-efficacy may be more likely to take responsibility, participate in decision making, and practice self-leadership strategies. Previous research by Yun, Cox, and Sims (2006) has shown that individuals differ in the way they respond to opportunities to share leadership responsibility. People with need for autonomy and general self-efficacy may be more likely to view themselves as capable and expect success (Gardner & Pierce, 1998; Judge, Locke, & Durham, 1997; Chen, Gully, & Eden, 2001; Shelton, 1990; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, &

Rogers, 1982; Yun et al.). They may also desire control and influence over their work and may want to make decisions related to their jobs (Yun et al.). Individuals with high general self-efficacy may also be more likely to believe they can accomplish what they want to accomplish (Maddux, 2002). Individuals characterized as self-leaders direct their own efforts, persist in situations of adversity, personally motivate themselves, and continually renew thinking patterns (Manz & Sims, 1989).

Self-leaders may be more likely to engage in innovative behaviors in the workplace (Carmeli, Meitar, & Weisberg, 2006), and self-leadership represents a self-influence process that involves self-direction and self-motivation (DiLiello & Houghton, 2006; Manz & Neck, 2004). Individuals who use self-leadership strategies enhance their personal effectiveness through behavior-focused, natural reward and constructive thought strategies (Manz & Neck; Manz & Sims, 2001; Prussia, Anderson, & Manz, 1998). Behavior-focused strategies help facilitate behavior management. Natural reward strategies helps individuals shape perceptions and build enjoyable aspects into activities and constructive thought strategies create positive ways of thinking (Neck & Houghton, 2006).

In environments where employees are encouraged to act on their own behalf and take greater control (Conger & Kanungo, 1988; Staples, 1990; Prussia et al., 1998), the strategies of self-leadership may be useful for achieving the necessary self-direction and self-motivation to perform well (Neck & Houghton, 2006). Therefore, practitioners and researchers alike may benefit from gaining insight about what influences the use of self-leadership strategies. The present study attempts to answer one overarching research question: Are there individual differences that influence the likelihood that a person will use self-leadership strategies?

In this empirical study, this research question is examined with a sample of graduate students from a small, liberal arts university in the Midwest. Previous self-leadership studies have focused on theoretical propositions regarding autonomous action and general self-efficacy on self-leadership (e.g., DiLiello & Houghton, 2006; Manz, 1986; Markham & Markham, 1995; Neck & Houghton, 2006). No previous study has examined the influence of general self-efficacy on self-leadership; although, an association between self-leadership and general self-efficacy is proposed conceptually (Neck & Houghton, 2006; Williams, 1997). The purpose of the present study is to examine the relationship between need for autonomy and general self-efficacy on self-leadership, to determine the extent to which these individual differences influence the use of self-leadership strategies. A model of the hypothesized relationship among need for autonomy, general self-efficacy and self-leadership strategies is shown in Figure 1.

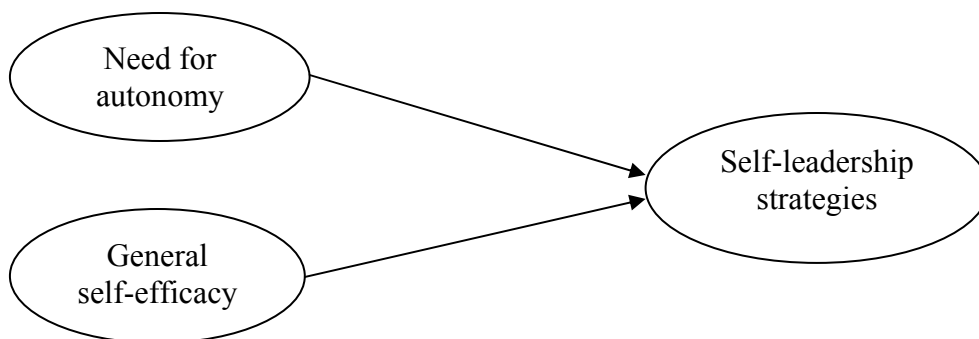


Figure 1. Model of hypothesized relationship among need for autonomy, general self-efficacy, and self-leadership strategies.

Model Development

Are there individual differences that influence the likelihood a person will use self-leadership strategies? Answering this research question is the focus of this study. This empirical study tests the relationship between need for autonomy and general self-efficacy on self-leadership.

Self-Leadership

The theoretical foundation of self-leadership is built upon social learning theory (Bandura, 1977) and social cognitive theory (Bandura, 1986). Social learning theory (Bandura, 1977, 1997) explains how people can influence their own cognition, motivation, and behavior (Yun et al., 2006). Social cognitive theory explains that people and their environment interact continually (Satterfield & Davidson, 2000) and behavioral consequences serve as sources of information and motivation (Bandura, 1986; Schunk, 2001). Self-leadership explains how self-leaders think and how they behave according to cognitive, motivational, and behavioral strategies (Kraft, 1998; Prussia et al., 1998; Yun et al., 2006).

The three strategies associated with self-leadership include behavior-focused, natural reward, and constructive thought strategies (Manz & Neck, 2004; Neck & Houghton, 2006; Prussia et al., 1998). Behavior-focused strategies heighten self-awareness and facilitate personal behavioral management through methods such as self-goal setting, self-reward, self-punishment, self-observation, and self-cueing (Neck & Houghton, 2006). Natural reward strategies help people build pleasant and enjoyable features into their activities so that the tasks themselves become naturally rewarding (e.g., Manz & Neck, 2004). Natural reward strategies increase intrinsic motivation, self-determination, and feelings of competence (Deci & Ryan, 1985; Neck & Houghton, 2006). Constructive thought strategies create positive habitual ways of thinking and negative destructive self-talk is replaced by optimistic self-talk (Seligman, 1991; Neck & Houghton, 2006). Constructive thought strategies can change thinking patterns (Prussia et al., 1998) and positively impact outcome expectations (Boss & Sims, 2008).

Need for Autonomy

Need for autonomy influences self-leadership and helps motivate autonomous action (Deci & Ryan, 2000; Edmunds, Ntoumanis & Duda, 2006; Yun et al., 2006) as explained by the self-determination theory (Deci, 1975; Deci & Ryan, 1985, 2000). Self-determination theory explains that the degree of a person's self-motivation is determined by the extent to which his or her behavior or actions are autonomous or controlled (Deci & Ryan, 2000). External forces that pressure an individual to engage in particular behaviors describe controlled actions, whereas freely initiated behaviors that emanate from within a person explain autonomous actions (Edmunds et al., 2006; Reeve, 2002).

Deci and Ryan (1985) explained that autonomously-oriented individuals make choices using the information available to them and they regulate themselves as they pursue self-selected goals. Self-determined choices are considered motivational behaviors when the choice of action flows freely, intuitively, and spontaneously (Cziksztentmihalyi, 1975; Deci & Ryan, 1985). When constraints exist or situations in the environment limit choices, autonomously-oriented people may make a "choiceful accommodation" (Deci & Ryan, 1985). In this way, the limitation is

transformed into another piece of information that is used in making decisions (Deci & Ryan, 1985). In other words, the rejected options are fully considered and the person experiences freedom to select among all the choices available. Deci and Ryan (1985) explained autonomous action involves making flexible, genuine choices and genuine choice means truly entertaining more than one option.

People have a natural need for autonomy as well as a natural need to freely choose their behaviors (deCharms, 1968; Deci, 1975; Vansteenkiste, Neyrinck, Niemiec, Soenens, De Witte, & Van den Broeck, 2007). In essence, human agency, rationality, and autonomy are conceptually linked in a theory of human need (Tao, 2004). Mill (1998) promoted the idea that people should be free to make choices. Kant (1959) indicated that self-governance and self-legislation are connected with morality; therefore, the capacity to exert control through choice is a foundational requirement of respect for persons (Tao). "Judgment is given to men that they use it" (Mill, 1998, p. 23).

The need for autonomy refers to a person's desire to engage in activities of his or her choosing (deCharms, 1968; Deci, 1975; Deci & Ryan, 1985; Edmunds et al., 2006). People with a desire or predisposition to take responsibility, act independently, and make decisions about their job have been characterized as employees with a high need for autonomy (Kupfer, 1990; Mathis & Jackson, 2006; Yun et al., 2006). Need for autonomy explains expectations about making independent choices, participating in the decision process (Yun et al.), taking autonomous action, and choosing for oneself both what to think and what to do (Kupfer, 1990).

The need for autonomy on the job refers to the extent to which individuals desire freedom and discretion in their work (Mathis & Jackson, 2006). Research studies support the proposition that employees with high need for autonomy desire to make independent choices and participate in decision making (Harrell & Alpert, 1979; Yun et al., 2006). Making independent choices and participating in decision-making have been found to represent characteristics of educated, ambitious people who want to be managers and leaders (Harrell & Alpert). Yun et al. tested the interaction between need for autonomy on self-leadership, and they found a positive relationship between these constructs; therefore, this study proposes a positive relationship exists between need for autonomy and use of self-leadership strategies.

H₁: There will be a positive relationship between need for autonomy and use of self-leadership strategies.

General Self-Efficacy

Social cognitive theory provides insight regarding self-efficacy and explains where self-efficacy comes from and how it develops (Maddux, 2002). The theory postulates people are active shapers of their environment, not merely passive reactors (Bandura, 1986, Barone, Maddux, & Snyder, 1997). Self-efficacy beliefs develop over time and through experiences (Maddux, 2002). Self-efficacy refers to beliefs about personal capability to produce a desired effect by individual action (Bandura, 1997). Self-efficacy helps explain the behaviors people will engage, how long they will persist, and how much effort they will expend to reach their goals (Satterfield & Davidson, 2000). People with high self-efficacy may be more likely to overcome difficulties through self-initiated change, more likely to be goal-directed and more persistent in the achievement of that goal (Maddux, 2002). In essence, the self-assessments that people make

in determining personal capacity to perform refer to self-efficacy (Bandura, 1986, 1991; Gist, 1987; Neck & Houghton, 2006).

People with general self-efficacy tend to deal more effectively with difficulties and persist in the face of failure (Cordery & Burr, 2005; Gist & Mitchell, 1992; Judge & Bono, 2001). They may also be more confident in their fundamental abilities to cope, perform, and be successful (Cordery & Burr; Judge & Bono). DeRue and Morgeson (2007) posited that individuals with general self-efficacy attribute success to ability and failure to insufficient effort. Chen, Gully, and Eden (2004) indicated that general self-efficacy is a motivational belief or judgment about personal capabilities that influences personal action in a wide variety of situations.

General self-efficacy refers to an accumulation of life successes that have emerged as a result of previous experience (Bandura, 1977; Chen et al., 2001). Rather than a malleable state-like belief, general self-efficacy represents a stable, trait-like belief (Chen et al., 2004). Various self-leadership studies identify specific task self-efficacy as a construct influential in the use of self-leadership strategies (e.g., Prussia et al., 1998). Yet, Neck and Houghton (2006) recommended that researchers should investigate the relationship between self-leadership and general self-efficacy. Previous research studies have also suggested a theoretical relationship exists between general self-efficacy and self-leadership (Neck & Houghton, 2006; Williams, 1997). Conceptually, general self-efficacy may influence self-leadership (Neck & Houghton, 2006). The present study empirically tests the relationship between general self-efficacy and self-leadership to determine if general self-efficacy beliefs influence the use self-leadership strategies.

H₂: There will be a positive relationship between general self-efficacy and self-leadership.

Method

Sample

Graduate students ($N = 124$) enrolled in summer courses at a small, liberal arts university in the Midwest were invited to participate in the study. Participation was voluntary but encouraged and responses were anonymous and confidential. The actual sample consisted of 121 graduate students representing a 97.5% participation rate. The average age of participants was approximately 36 years ($SD = 9.67$), and the sample was made up of 59.5% females and 40.5% males. The average tenure of participants was 6.68 years ($SD = 6.78$) with a range of tenure between 1 and 30 years.

Procedures

A single stage sampling procedure was utilized for drawing the convenience sample from the population of interest (Creswell, 2003). A questionnaire was used for collecting data from graduate students. Permission was obtained from graduate faculty for administering the survey and students received informed consent information along with procedures for the study. An attempt was made to increase the likelihood of obtaining the true score on need for autonomy, general self-efficacy, and self-leadership strategies rather than scores with systematic error by

reducing evaluation apprehension (Donaldson & Grant-Vallone, 2002; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Respondents were assured of anonymity, and they were informed that there was no right or wrong answers (Podsakoff et al.). The questionnaires were administered in a group setting at the start of class sessions and respondents took approximately 15 minutes to complete the survey.

The study took place in face-to-face classrooms among graduate students enrolled in summer courses at a small, liberal arts university located in the Midwest. A questionnaire with closed-ended statements was administered in paper-and-pencil format. The survey included closed-ended statements with fixed responses. Responses were obtained to measure need for autonomy (Yun et al., 2006), general self-efficacy (Chen et al., 2001), and self-leadership (Houghton & Neck, 2002). Self-report information was also gathered from respondents regarding gender, age, and tenure. In order to address issues of self-report bias, Podsakoff and Organ (1986) suggested that researchers may reorder the items on the questionnaire so the criterion variable follows the independent variables. This scale reordering procedure was intentional as an attempt to reduce self-report bias, because all the variables in the study were obtained from the same respondents using a single survey.

Measures

Self-leadership strategies. The criterion or dependent variables in the study include the three self-leadership strategies namely behavior-focused, natural reward, and constructive thought strategies, along with an overall measure of general self-leadership. The dependent variables were measured using the Revised Self-Leadership Questionnaire (RSLQ) developed by Houghton and Neck (2002). There are 35 item statements in the self-leadership scale measuring behavior-focused, natural reward, and cognitive thought strategies. Self-leadership strategies were scored using a 5-point Likert scale with 1 (*not at all accurate*), 2 (*somewhat accurate*), 3 (*a little accurate*), 4 (*mostly accurate*), and 5 (*completely accurate*). There are nine subscales in the RSLQ. Behavior-focused self-leadership can be measured with five subscales identified as self-goal setting (5 items), self-reward (3 items), self-punishment (4 items), self-observation (4 items), and self-cueing (2 items). Natural reward self-leadership is measured with a single 5-item scale. Constructive thought self-leadership is measured with three subscales, including visualizing successful performance (5 items), self-talk (3 items), and evaluating beliefs and assumptions (4 items). A single measure of self-leadership was also computed with the average scores of behavior-focused, natural reward, and constructive thought strategies, and this single measure is referred to as general self-leadership.

A sample item statement from the behavior-focused dimension is, "I establish specific goals for my own performance." A sample item statement from the natural reward dimension is, "I find my own favorite way to get things done." A sample item statement from the constructive thought dimension is, "I visualize myself successfully performing a task before I do it." The reliability of the scale was established by Houghton and Neck (2002) in two studies with respondents from two introductory management courses at a large southeastern university, and they reported internal consistency with the coefficient alpha ranging from .74 to .93. For the present study, the Cronbach's alpha was .88 for behavior-focused, .78 for natural reward, .88 for constructive thought, and .93 for general self-leadership. Table 1 displays the self-leadership strategies and Cronbach's alpha for the present study.

Table 1
Self-Leadership Strategies and Cronbach's Alpha (N = 121)

Self-Leadership Strategies	Cronbach's Alpha, α
Behavior-focused	.88
Natural reward	.78
Constructive thought	.88
General self-leadership	.93

Need for autonomy. Need for autonomy was measured with a scale developed by Yun et al. (2006), and the scale measures a person's desire or predisposition to be independent and free of external control. There are three items statements in the scale. Need for autonomy was scored using a 5-point Likert scale with 1 (*definitely not true*), 2 (*not true*), 3 (*neither true nor untrue*), 4 (*true*), and 5 (*definitely true*). A sample statement from the need for autonomy scale is, "In my ideal job I would find solutions to my own problems at work without consulting my supervisor." The scale was used by Yun et al. (2006) in a self-leadership study and they reported the scale to be slightly lower than the desired .70 ($\alpha = .68$). Yun et al. (2006) tested the need for autonomy on self-leadership and found a positive and significant relationship. For the present study, the Cronbach's alpha was .69.

General self-efficacy. General self-efficacy was measured using the New General Self-Efficacy (NGSE) scale developed by Chen et al. (2001). There are eight item statements in the general self-efficacy scale that measures an individual's perception of ability to perform across a wide range of situations (Chen et al., 2001; Scherbaum, Cohen-Charash, & Kern, 2006). General self-efficacy was scored using a 7-point Likert scale with 1 (*strongly agree*), 2 (*somewhat agree*), 3 (*agree*), 4 (*neither agree nor disagree*), 5 (*disagree*), 6 (*somewhat disagree*), and 7 (*strongly disagree*). A sample statement from the general self-efficacy scales is, "In general, I think that I can obtain outcomes that are important to me." The reliability of the NGSE scale was tested by Chen et al. (2001) with 323 undergraduate students from a large mid-Atlantic university and their study reported internal consistency with the coefficient alpha ranging from .86 to .90. For the present study, the Cronbach's alpha was .90.

Control variables. The participants were selected using a non-random sampling procedure; therefore, the selection process for the study may pose a threat to internal validity (Kerlinger & Lee, 1999). In an effort to strengthen internal validity of the study, gender, age, and tenure were control variables. Participants provided information regarding gender, age, and tenure through self-report when completing the self-administered questionnaire. In a previous study examining the relationship between self-leadership skills and innovation at work, job tenure, age, and gender were controlled and Carmeli et al. (2006) found these control variables significantly contributed to the variance in the dependent variable ($R^2 = .08$; $F = 2.46$, $p = 0.03$).

Results

Descriptive Statistics

Responses from the survey were entered into SPSS (Version 15.0) statistical software and were used to compute descriptive statistics. The means and standard deviations are shown in Table 2 for the control, predictor, and criterion variables of the study. Need for autonomy and

self-leadership strategies were measured using a 5-point Likert scale and general self-efficacy was measured using a 7-point Likert scale.

Table 2
Descriptive Statistics (N = 121)

Variable	<i>M</i>	<i>SD</i>
1. Gender ^a	1.41	.49
2. Age	35.58	9.67
3. Tenure	6.68	6.78
4. Need for autonomy	3.98	.67
5. General self-efficacy	6.14	.70
6. Behavior-focused	3.95	.60
7. Natural reward	3.91	.66
8. Constructive thought	3.61	.72
9. General self-leadership	3.76	.56

^aGender was coded 1 for female and 2 for male.

Correlations

A correlation analysis was performed for examining the nature and degree of relationship among the predictor and criterion variables of the study. The results of the Pearson *r* correlation analysis and internal consistencies are shown in Table 3.

Table 3
Correlations and Internal Consistencies (N = 121)

Variable	1	2	3	4	5	6	7	8	9
1. Gender ^a									
2. Age	.04	-							
3. Tenure	.01	.57**	-						
4. Need for autonomy	.01	.05	.26**	(.69)					
5. General self-efficacy	.00	-.04	.06	.18*	(.90)				
6. Behavior-focused	-.44**	-.11	.03	.03	.17	(.88)			
7. Natural reward	-.39**	-.24	-.10	.06	.38**	.62**	(.78)		
8. Constructive thought	-.29**	.07	.00	.06	.28**	.63**	.44**	(.88)	
9. General self-leadership	-.44**	-.11	-.03	.06	.33**	.88**	.81**	.84**	(.93)

Note. Numbers in parentheses are internal reliabilities (Cronbach's alpha) for each measure.

^aGender was coded 1 for female and 2 for male.

* $p < .05$. ** $p < .01$.

Need for autonomy and self-leadership. There is no correlation between the need for autonomy and general self-leadership ($r = .06$). Neither is there a correlation between need for

autonomy and behavior focused ($r = .03$), natural reward ($r = .06$) nor constructive thought ($r = .06$) self-leadership strategies.

General self-efficacy and self-leadership. There is a positive and significant correlation between general self-efficacy and general self-leadership ($r = .33, p < .01$). A positive but weak and non-significant relationship was found between general self-efficacy and behavior-focused self-leadership strategies ($r = .17$). Positive and significant relationships were found between general self-efficacy and natural reward strategies ($r = .38, p < .01$) and general self-efficacy and constructive thought strategies ($r = .28, p < .01$).

Self-leadership. There is a positive and significant relationship between behavior-focused and natural reward ($r = .62, p < .01$) and behavior-focused and constructive thought leadership strategies ($r = .63, p < .01$). There is also a positive and significant relationship between natural reward and constructive thought self-leadership strategies ($r = .44, p < .01$).

Other correlations. There was a correlation found between age and tenure ($r = .57, p < .01$) and a positive and significant correlation was found between need for autonomy and general self-efficacy ($r = .18, p < .05$). The results of the correlation analysis indicate there is a low correlation between the need for autonomy, general self-efficacy, and general self-leadership scales; therefore, the empirical data suggests these constructs of the model are both theoretically and empirically distinct.

Hierarchical Regression Analysis

General self-leadership analysis. Hierarchical regression analysis was conducted to examine the contribution of specific theory driven variables in explaining the dependent variables. In order to control for possible confounding influences of extraneous variables, gender, age, and tenure were first entered into the hierarchical procedure and represent Step 1. Need for autonomy and general self-efficacy, the two additional predictor variables, were added in the next step and represent Step 2.

The combination of the variables in Step 2 significantly predicted general self-leadership, $F(5, 118) = 9.85, p < .01$; adjusted $R^2 = .27$. The beta weights suggest gender ($\beta = -.43, t = -5.49, p < .01$) contributes the most to the explanation of general self-leadership. General self-efficacy ($\beta = .33, t = 4.09, p < .01$) is the next significant contributor to the regression equation. The adjusted R^2 value for Step 1 is .18 indicating 18% of the variance in general self-leadership is explained in model one. The adjusted R^2 for Step 2 is .27 indicating 27% of the variance in self-leadership is explained by model 2. Since the adjusted R^2 value rises from 18% to 27% in model 2, model 2 provides a better explanation of the individual differences influential on general self-leadership. The regression analysis results for general self-leadership are shown in Table 4.

Table 4
Hierarchical Regression Analysis - General Self-Leadership (N = 121)

General Self-Leadership	B	SE B	B
Step 1			
Gender	-.49	.10	-.43**
Age	-.01	.01	-.11
Tenure	.00	.01	.04
Step 2			
Gender	-.49	.09	-.43**
Age	.00	.01	-.06
Tenure	.00	.01	-.01
Need for autonomy	.01	.07	.02
General self-efficacy	.26	.06	.33**

Note. $R^2 = .20$ for Step 1. Adjusted $R^2 = .27$ for Step 2.

* $p < .05$. ** $p < .01$.

Self-leadership strategies. The same hierarchical regression procedures were followed to examine the relationship between the predictor variables on behavior-focused, natural reward and constructive thought self-leadership strategies. When testing behavior-focused self-leadership strategies, gender ($\beta = -.43$, $t = -5.24$, $p < .01$) and general self-efficacy ($\beta = .17$, $t = 2.04$, $p = .04$) significantly contributed to the regression equation, $F(5, 118) = 7.01$, $p < .01$; adjusted $R^2 = .20$. The hierarchical regression analysis results for variables explaining behavior-focused strategies are shown in Table 5.

Table 5
Hierarchical Regression Analysis - Behavior Focused Self-Leadership (N = 121)

Behavior-Focused	B	SE B	B
Step 1			
Gender	-.53	.10	-.43**
Age	-.01	.01	-.16
Tenure	.01	.01	.13
Step 2			
Gender	-.53	.10	-.43**
Age	-.01	.01	-.14
Tenure	.01	.01	.11
Need for autonomy	-.01	.08	-.01
General self-efficacy	.15	.07	.17*

Note. $R^2 = .21$ for Step 1. Adjusted $R^2 = .20$ for Step 2.

* $p < .05$. ** $p < .01$.

When testing natural reward strategies, gender ($\beta = -.38, t = -4.87, p < .01$), age ($\beta = -.20, t = -2.08, p = .04$), and general self-efficacy ($\beta = .36, t = 4.58, p < .01$) significantly contributed to the regression equation, $F(5, 118) = 10.96, p < .01$; adjusted $R^2 = .30$. The results for variables explaining natural reward self-leadership are shown in Table 6.

Table 6
Hierarchical Regression - Natural Reward Self-Leadership (N = 121)

Natural Reward	B	SE B	B
Step 1			
Gender	-.50	.11	-.38**
Age	-.02	.01	-.24*
Tenure	.00	.01	.04
Step 2			
Gender	-.50	.10	-.38**
Age	-.01	.01	-.20*
Tenure	.00	.01	-.01
Need for autonomy	.02	.08	.02
General self-efficacy	.34	.07	.36**

Note. $R^2 = .20$ for Step 1. Adjusted $R^2 = .30$ for Step 2.

* $p < .05$. ** $p < .01$.

When examining constructive thought strategies, gender ($\beta = -.30, t = -3.46, p < .01$) and general self-efficacy ($\beta = .29, t = 3.30, p < .01$) significantly contributed to the regression equation, $F(5, 118) = 4.88, p < .01$; adjusted $R^2 = .14$. The hierarchical regression analyses for the variables explaining constructive thought self-leadership are shown in Table 7.

Table 7
Hierarchical Regression Analysis - Constructive Thought Self-Leadership (N = 121)

Constructive Thought	B	SE B	B
Step 1			
Gender	-.43	.13	-.30**
Age	.01	.01	.11
Tenure	-.01	.01	-.06
Step 2			
Gender	-.43	.13	-.30**
Age	.01	.01	.15
Tenure	-.01	.01	-.11
Need for autonomy	.03	.10	.03
General self-efficacy	.30	.09	.29**

Note. $R^2 = .09$ for Step 1. Adjusted $R^2 = .14$ for Step 2.

* $p < .05$. ** $p < .01$.

Hypothesis Testing Results

A relationship was not found between need for autonomy and general self-leadership ($r = .06$). Neither was a relationship found between need for autonomy and behavior-focused self-leadership ($r = .03$), natural reward self-leadership ($r = .06$), nor constructive thought self-leadership strategies ($r = .06$); therefore, hypothesis 1 was not supported.

There was a multivariate relationship between general self-efficacy and general self-leadership ($r = .33, p < .01$). A positive and significant relationship was also found between general self-efficacy and natural reward ($r = .38, p < .01$) and constructive thought self-leadership strategies ($r = .28, p < .01$). Since a significant relationship between general self-efficacy and behavior-focused self-leadership was not found ($r = .17$), hypothesis 2 was only partially supported.

The study further examined the relationship between need for autonomy and general self-efficacy on self-leadership including behavior-focused, natural reward, constructive thought, and general self-leadership after controlling for gender, age, and tenure. The results revealed the need for autonomy did not significantly contribute to the general self-leadership, behavior-focused, natural reward, or constructive thought strategies. General self-efficacy did significantly contribute to general self-leadership ($\beta = .33, t = 4.09, p < .01$), behavior-focused ($\beta = .17, t = 2.04, p = .04$), natural reward ($\beta = .36, t = 4.58, p < .01$), and constructive thought self-leadership strategies ($\beta = .29, t = 3.30, p < .01$).

Additional Analysis

The data of the present study revealed that there were differences in the general self-leadership scores between females and males in the study sample. The average general self-leadership score for females was 3.96 ($SD = .43$), and the average general self-leadership score for males was 3.46 ($SD = .59$). In an independent samples t -test with unequal variances, the analysis showed that the general self-leadership scores for males and females differ significantly, $t(80.98) = 4.99, p < .01$. This study found that women are more likely than men to use general self-leadership strategies.

The study also found that women are more likely than men to use behavior-focused, $t(85.48) = 5.04, p < .01$, natural reward, $t(80.97) = 4.35, p < .01$, and constructive thought self-leadership strategies, $t(84.45) = 3.13, p < .01$. This analysis revealed that there were differences in the general self-leadership, behavior-focused, natural reward, and constructive thought self-leadership scores of men and women in the study sample, and these differences were significant.

Discussion and Future Research

The results of this study indicated that a positive and significant relationship existed between general self-efficacy and natural reward, constructive thought, and general self-leadership strategies. General self-efficacy represents stable, trait-like beliefs (DeRue & Morgeson, 2007), and various experiences of failures or successes in different situations may help to develop these generalized beliefs (Bosscher & Smit, 1998). Natural reward strategies explain intrinsic motivation and how individuals motivate themselves by building enjoyable aspects into their activities (Neck & Houghton, 2006). Constructive thought strategies involve positive ways of thinking (Neck & Houghton; Seligman, 1991). Strong self-leaders with high

general self-efficacy may motivate themselves and use positive thinking to reframe experiences so they are better equipped to handle organizational challenges (Jones & Kriflick, 2005).

Social learning theory posits that people influence their own cognition, motivation, and behaviors (Bandura, 1977, 1997; Yun et al., 2006). For the respondents in this study, the self-leadership strategies associated with cognition and motivation were associated with general self-efficacy. General self-efficacy significantly predicts both natural reward strategies associated with motivation and constructive thought strategies associated with cognitive processes. Future researchers may consider whether state-like self-efficacy beliefs would be more likely to influence behavior-focused self-leadership strategies, whereas trait-like general self-efficacy beliefs may be more likely to influence the use of natural reward and constructive thought self-leadership strategies.

The correlation analysis revealed a weak association between general self-efficacy and behavior-focused strategies ($r = .17$). Only after controlling for gender, age, and tenure did general self-efficacy make a contribution to behavior-focused self-leadership. After controlling for gender, age, and tenure through regression analysis, general self-efficacy significantly contributed to behavior-focused self-leadership ($\beta = .17$, $t = 2.04$, $p = .04$). Wong-McDonald and Gorsuch (2004) found that people who were intrinsically motivated were less likely to use a self-directing style when compared with people who were extrinsically motivated. While externals displayed a more behavior-focused self-directing style, intrinsically motivated people internalized their beliefs and then lived by them (Wong-McDonald & Gorsuch). Future researchers may consider locus of control as another possible predictor variable that may help further explain the individual differences that influence the use of self-leadership strategies.

The results of this study also indicated that there was a significant difference between the self-leadership scores of men and women. The women in the study scored significantly higher than men. Some researchers suggested that women in leadership may possess a gender advantage over men in the workforce due to their more collaborative and generally more empowering approach to leadership (e.g., Eagly & Carli, 2003). Others (e.g., Vecchio, 2003) questioned claims of gender advantage and suggested that researchers need to increase objectivity and empirical rigor before making claims about gender advantages in leadership. Nevertheless, differences exist between women and men and women constitute “a growing majority in the workforce” (Furst & Reeves, 2008, p. 373). Based on a meta-analysis, Eagly and Johnson (1990) suggested that gender may influence leadership style because they found women were generally more democratic in their leadership style, while men were more autocratic. A study of gender differences and self-leadership was not the focus of this study, but future researchers may consider an intentional examination of gender on self-leadership. Controlling for gender represented one of the strengths of this study. In each of the regression analyses, gender significantly contributed to the regression equation.

The individual was the unit of analysis for this study and the number of participants needed for the study was considered a priori. Power analysis refers to the determination of sample size before conducting a study (Rubin & Babbie, 1989). A rule of thumb for researchers analyzing data using multiple regression analysis is a 20:1 sample size meaning 20 participants for each independent variable. Using this rule of thumb as a guide, there were five predictor variables (gender, age, tenure, need for autonomy, and general self-efficacy) indicating a sample of 100 would be preferred for this study. The significance level for the study was set at .05 with a power of .80; therefore, the minimum R^2 that could be found statistically significant with a sample of 100 was .12 (Cohen, 1988). For the present study, 121 respondents participated in the

study; therefore, the preferred sample size was exceeded. The sample size represented another strong point or strength of this study.

Limitations of the Study

One potential limitation of the current study was the procedure utilized for selecting participants. Survey respondents were students enrolled in graduate courses during the months of June through August. The sample was not randomly selected. Non-random sampling procedures may threaten internal validity of research studies because there may be unknown confounding variables that influence the participants in the sample (Rubin & Babbie, 1989). Future researchers may be interested in confirming the results of this study with a randomly selected sample.

Another limitation of the study was the collection of the independent and the dependent variables from the same sources using the same method. This raised the issue of common method variance. With this type of research design, the correlation between measures may be attributed to the same-source data rather than a real underlying relationship (Podsakoff & Organ, 1986). In order to address the issue of common method variance, a Harman's single-factor test (Podsakoff & Organ, 1986) was conducted by performing an exploratory factor analysis on all the variables of the study. Podsakoff et al. (2003) indicated that this single-factor test is a technique widely used for addressing the issue of common method variance. An examination of the unrotated factor structure of the variables was conducted and the single-factor analysis revealed that no single factor accounted for the majority of the covariance. There were 12 factors that emerged with values greater than one, accounting for 74.28% of the variance in the independent and dependent variables. The first factor accounted for 26.05% of the variance. A single factor did not emerge from the factor analysis and one general factor did not account for the majority of the covariance among the measures (Podsakoff et al., 2003); therefore, it did not appear that common method variance represented a problem for this study. Future researchers may attempt to reduce common method variance through research design by collecting data from multiple sources and multiple methods or collecting data from the same subjects at different times (Podsakoff & Organ, 1986).

Conclusion

Changes in the workforce may require some organizations to redefine the work environment (Pascarella, 1984). Some organizations are moving away from top-down, command-and-control leadership to shared leadership (Arnold et al., 2000; Pearce, 2007). Conger and Kanungo (1988) suggested that organizational effectiveness improves when superiors share power and control with subordinates. Yet, sharing power and control requires a change in mindset, relationships and structure in many organizations (Gupta, 2007). These changing environments require employees willing to accept more responsibility and make efforts to improve their individual performance, such as making use of self-leadership strategies.

Organizational environments moving away from traditional management to shared leadership need employees willing to lead themselves. Employees with high general self-efficacy may be more likely to positively impact outcome expectations (Boss & Sims, 2008) and use natural reward and constructive thought self-leadership strategies. The results of this study also

revealed women in this sample were more likely than men to use behavior-focused, natural reward, constructive thought, and general self-leadership strategies.

Spiritual Formation

Self-leadership describes people who take personal responsibility, direct their own efforts, motivate themselves, and renew their thinking patterns (Manz & Sims, 1989). In the Scriptures, Christians are exhorted to develop beyond childish ways while remaining childlike. Childish ways may represent an attitude that waits for others to make decisions rather than venture out and make personal choices. 1 Corinthians 13:11 says, “When I was a child, I used to speak like a child, think like a child, reason like a child; when I became a man, I did away with childish things” (NASB). While some may argue that a childlike stance means letting other people take care of the needs of an organization, Christians know that it can be childish to wait for others rather than to take responsibility. Jesus does not encourage people to remain helpless. Maturity requires that people step out into areas that may be new or unknown with trust in God. Being childlike encourages people to remain open to new possibilities and ask big questions. As people step out and gain new skills, their general self-efficacy may also increase. As general self-efficacy beliefs develop and strengthen, people may be more likely to use self-leadership strategies. Self-leaders may also be more likely to adjust to changing conditions and people with general self-efficacy may be willing to consider new ideas and take new paths. In this way, individuals with general self-efficacy and who use self-leadership strategies may be more willing to follow the Lord into new places. Jean-Pierre de Caussade (1986) stated, “God’s action is forever new. It never retraces its steps, but always marks out new paths” (p. 129).

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