The Relationship Between Transformational Leadership and

Knowledge Workers' Self-Directed Learning Readiness

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DEDICATION

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ABSTRACT

The rapid pace of change for knowledge workers competing globally necessitates ongoing continuous learning. Increasingly, knowledge workers will need to be ready – willing and able - to engage in self-directed learning. This makes it important to understand what factors in the work environment might be related to the self-directed learning readiness. The variables examined in this study were drawn from three strands of literature. Self-directed learning readiness, the dependent variable, was drawn form the education research. Transformational leadership the independent variable was drawn from the leadership research. Based on findings from the employee development research supervisor support for development was also included as an independent variable. The present study addresses the lack of knowledge regarding whether a relationship exists between supervisor transformational leadership behaviors, supervisor support for development, and knowledge worker self-directed learning readiness.

This study used a correlational, cross-sectional, research design. A survey using well validated instruments was sent to 1,200 knowledge workers at a Fortune 500 company. A total of 385 responses (a 32% response rate) were received. Pearson moment correlation, multiple regression, and structural equation modeling were used to analyze the data.

Aggregate transformational leadership was found to be positively related to self-directed learning readiness in this sample ($r = 0.12$, $p = .02$). The results found support for a weak relationship between self-directed learning readiness and transformational leadership. Similarly weak relationships were found between self-directed learning readiness and the four separate transformational leadership behavior sub-scales.

Supervisor support for development was weakly related to self-directed learning readiness. A strong relationship ($r = .80$, $p = 0.00$) was found between supervisor support for development and transformational leadership. Due to multicollinearity, multiple regression analysis ($F_{2,382} = 2.846$, $p = .059$) did not find unique effects on subordinate self-directed learning readiness for aggregate transformational leadership ($\beta = .085$, $p = .32$) or supervisor support for development ($\beta = .042$, $p = .62$) when controlling for each other. Due to multicollinearity, a second multiple regression analysis ($F_{4,380} = 1.555$, $p = .19$) with idealized influence, inspirational motivation, intellectual stimulation, or individualized consideration in the model did not find unique effects on self-directed learning readiness when controlling for the other behaviors. Self-directed learning readiness was significantly related ($r = .19$, $p = .00$) to self-reported job performance. Implications for both research and practice were discussed based on these results.

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CHAPTER ONE

INTRODUCTION

Nations, companies, and workers are facing rapid, continual, and unpredictable change (Friedman & Mandelbaum, 2011; National Center on Education and the Economy, 2007). Due to the expanding movement of people, capital, and information across the world, businesses must continuously adapt to new cultures, markets, competitors, and innovations (Friedman, 2007; Gupta, Govindarajan, & Wang, 2008). Learning in the workplace is shaped by the nature of work (Kleibard, 1999; Swanson & Holton, 2001; Waks, 2004). There is a growing sense that traditional forms of learning are not keeping pace with the ongoing and rapid changes in the nature of work done by knowledge workers (National Center on Education and the Economy, 2007; Packer & Sharrar, 2003). Globalization, technology, and the rapid obsolescence of knowledge all promise to re-shape the nature of learning in the workplace (Boyce, Zacarro, & Zazanis Wisecarver, 2010; Cervero, 2001; Drucker, 1993; Molloy & Noe, 2010). The need to constantly respond to an ever changing marketplace has lead to sustained interest in creating continuous learning in organizations (Guglielmino, & Long, 2011; Hall & Mirvis, 1995, Sessa & London, 2006). Continuous learning is "[t]he process by which individual and/or organizational learning is fostered on an ongoing basis" (Tannenbaum, 1997, p. 438).

The continuous learning construct presumes that "employees at all levels of the company must actively pursue training and development activities" (Noe, Wilk, Mullen, & Wanek, 1997, p 153). Individual continuous learning is "a deliberate and sustained effort to learn, a readiness and desire to acquire new knowledge and skills, actually

engaging in activities that allow us to learn, and applying our increased knowledge and new and improved skills" (London & Smither, 1999a, p. 83). Many organizations have responded to the need for continual learning by investing additional resources in required training to help employees perform their current jobs (Birdi, Allan, & Warr, 1997; McCauley & Hezlett, 2001). However, changes in the workplace raise important new questions about the nature of learning in the workplace and the locus of responsibility for learning (Packer & Sharrar, 2003; Tannenbaum, Beard, McNall, & Salas, 2010). Increasingly in a time of high change, organizations will need employees who voluntarily participate in a variety of different learning experiences beyond training if work skills are to remain competitive (Maurer & Tarulli, 1994). At the individual level continuous learning creates a need for employees to voluntarily engage in informal and future oriented learning on-the-job (Birdi et al, 1997; Noe et al., 1997; Tannebaum, et al., 2010). Self-directed learners are noted for taking responsibility "for identifying what is to be learned, when it is to be learned and how it is to be learned" (Guglielmino & Guglielmino, 2001, p. 37). Growing numbers of scholars in both education and management posited that knowledge workers in global companies will increasingly be responsible for planning their own learning as part of their daily work – that is, they will need to to act as self-directed learners (Clardy, 2000; Guglielmino & Guglielmino, 2008; Langkamer Ratwani, Zaccaro, Garven, & Geller, 2010; Tannenbaum, et al., 2010).

The continual nature of change in the workplace dramatically increases the need for continuous learning and ultimately creates a premium for understanding which factors might encourage self-directed learning within organizations (Boyce, et al., 2010; Guglielmino & Guglielmino, 2001; 2008; London & Smither, 1999b). However, not all

workers appear to be equally able or willing to engage in self-directed learning (Knowles, Holton, & Swanson, 1998; Pratt, 1988; Tough, 1979). Learners are ready to engage in self-directed learning when they are able and willing to take control and responsibility for their own instruction (Pratt, 1988, p. 169).

Education theorists have taken different perspectives about the extent to which readiness to participate in self-directed learning can be developed or encouraged (Guglielmino & Guglielmino, 2003; Knowles, 1975; Manz & Manz, 1991; Tough, 1979). The work environment has been proposed as an influential determinant of the degree of self-directed learning readiness in the organization (Guglielmino & Murdick, 1987; Tannenbaum, 1997), Management theorists engaging in employee development theory building (Maurer, 2002; Noe et al, 1997) identified several elements in the working environment expected to serve as antecedents to the decision to engage in development activity (defined broadly and not limited to self-directed learning). Supervisor support for development has been theoretically and empirically identified as a factor in the work environment that is related to both motivation to develop and actual involvement in a variety of different learning experiences (Maurer, Lippstreu, & Judge, 2008). Finally, leadership theorists proposed that transformational leadership will contribute to follower self-development (Avolio, 1999; Avolio & Gibbons, 1988; Kark & Shamir, 2008; Lippstreu, 2010). However, transformational leadership has not been empirically related to self-directed learning readiness (Mayhew, 2010). Recently, Lippstreu (2010) has argued that the learning from the employee development literature and transformational leadership have not been sufficiently integrated. The present study builds on that argument by suggesting that the expansive history from the self-directed learning

literature in education should also be integrated with the learning from the employee development and transformational leadership literatures.

The present study seeks to integrate three academic perspectives – self-directed learning research by education scholars, employee development research by management scholars, and leadership research by management scholars – in order to understand the role of the direct supervisor in supporting and encouraging self-directed learning readiness in the work environment. Knowledge workers are facing the need to engage in ongoing learning to keep pace with constantly changing knowledge-based work (Guglielmino & Guglielmino, 2008; Lewis, 2005; Packer & Sharrar, 2003). The present study will seek to examine whether one important environmental factor, the behaviors (both support for development and transformational leadership behaviors) of a knowledge worker's direct supervisor, is related to a knowledge worker's self-directed learning readiness. The problem examined in this study, the lack of knowledge on a possible relationship between supervisor support for development and transformational leadership behaviors and subordinates self-directed learning readiness, is introduced next. The discussion of the problem includes an overview of the contribution this research hopes to make towards increasing understanding of whether or not leadership is related to knowledge workers' self-directed learning. The subsequent section presents the proposal's conceptual framework – how the theory of planned behavior provides a possible explanation for the proposed relationship between the transformational leadership behaviors of a knowledge worker's direct supervisor and the knowledge worker's self-directed learning readiness. The conceptual framework is followed by a discussion of the significance of the research to industry, theory, and the practice of

Human Resource Development (HRD). The chapter concludes with a discussion of limitations of the proposed methodology, definitions, and a summary.

Problem Statement

The problem addressed by this research is the lack of knowledge on a possible relationship between supervisor transformational leadership behaviors and supervisor support for development and subordinate workplace self-directed learning readiness. Self-directed learning is an especially relevant form of learning for knowledge workers who need to engage in the constant levels of conceptual, unpredictable, and varied learning required by today's workplace (Guglielmino & Guglielmino, 2008; London & Mone, 1999; McCauley & Hezlett, 2001). It is important to examine this issue because traditional forms of learning will not keep pace with the accelerating and unpredictable change faced by large public companies competing globally (National Center on Education and the Economy, 2007; Manz & Manz, 1991). According to the National Center on Education and the Economy (2007), "The problem is that our education and training systems were built for another era. We can get where we must go only by changing the system itself" (p. 8).

The self-directed learner is not restricted to learning within the confines of an educational institution, not limited to a predetermined curriculum, nor dependent upon others to initiate learning (Tough, 1979). Tough (1979) has demonstrated that it is artificial to contend that learning happens only under the auspices of a teacher in a classroom. Instead the "entire range" of learning also includes learning that is self-planned by individuals outside of formal educational settings" (Tough, 1979, p. 171). In high change environments, HRD must help workers in jobs with high levels of change

take advantage of the full range of learning options that will enable them to stay current with the rapidly changing knowledge needed to perform their jobs (Clardy, 2000; Guglielmino & Guglielmino, 2008; Manz & Manz, 1991).

This study draws and builds on three different strands of literature. The self-directed learning literature has identified self-directed learning readiness as an individual level variable related to the decision to participate in self-directed learning (Guglielmino, 1978). Pratt (1988) theorized that readiness is "contextually determined in relation to specific goals or content with the learning being situationally self-directed and self-supporting" (p. 169). However, Long (2000) suggested an additional gap in the understanding of self-directed readiness is what environmental variables, if any, might be related to readiness. In addition, in her review of self-directed learning, Ellinger (2004) concluded that the workplace is one environment in which self-directed learning has not been sufficiently studied.

In employee development research, management scholars have highlighted the importance of the working environment in understanding continuous learning in the workplace. In particular, scholars developed conceptual models explaining the decision to participate in different forms of learning activities. As part of this strand of literature, and consistent with self-directed learning theorists (Tough, 1979), scholars recognized that there can be a variety of different types of development (e.g., assessment, job experiences, relationships, courses and programs)(Noe et al., 1997). In particular, Noe et al. (1997) proposed that "individual and organizational antecedents affect individual's decisions regarding the *type* [emphasis added] and amount of participation in development activities" (p. 154). The direct supervisor has been identified in this strand

of research as an important environmental variable related to the decision to participate in different forms of development (Birdi, et al., 1997; Kozlowski & Hults, 1987; r & Tarulli, 1994). Theorizing about the role of the supervisor has centered on the provision of support for development as a transaction in which development is provided as a reward for heightened job performance (Maurer, 2002). Despite interest in self-directed learning among employee development scholars (London & Mone, 1999), the role of self-directed learning readiness in the decision process has not been directly examined in this literature. Thus, the relationship between supervisor support for development and self-directed learning readiness has not been examined.

Finally, leadership research has proposed that transformational leadership is related to leaders' self-development in particular (Bass, 1985) and self-development more generally (Avoio, 1999; Sosik & Jung, 2010). According to Yukl (2010), at its core, transformational leadership is "inspiring, developing, and empowering followers" (p. 285). According to this theoretical perspective, the leader goes beyond a transaction with followers and instead motivates them to higher levels on Maslow's hierarchy of needs (Bass, 2008). An important outcome of transformational leadership is enhanced follower commitment to engage in self-development (Avolio, 1999). Furthermore, the theory of leadership proposes that transformational leadership should explain unique variance not accounted for by transactional leadership. However, the current understanding about whether a relationship exists between transformational leadership and self-directed learning readiness is incomplete (Lippstreu, 2010; Mayhew, 2010).

Identifying whether a relationship exists between direct supervisor's behaviors (both support for development and transformational leadership) and subordinate self-

directed learning readiness may suggest new avenues by which to contribute to continuous learning in organizations dealing with rapidly changing knowledge needs (London & Mone, 1999; Manz & Manz, 1991; Mayhew, 2010). Lippestreu (2010) noted that "research related to transformational leadership development has operated rather independently from employee development literature" (p. 15) and it can be further added that employee development literature has operated independently from self-directed learning literature. Self-directed learning and the conditions related to readiness have not been sufficiently studied in the workplace (Ellinger, 2004). Supervisor support for development has been related to many forms of development in the workplace but not directly to self-directed learning readiness. Furthermore, despite a strong theoretical alignment the quantitative relationship between transformational leadership and self-directed learning has not been sufficiently examined nor has evidence been found establishing a relationship (Mayhew, 2010). Addressing this knowledge gap may contribute to a better understanding of the conditions conducive to empowering self-directed learning by knowledge workers needing to stay current in environments of change (Clardy, 2000; Guglielmino & Guglielmino, 2008; Manz & Manz, 1991). The conceptual basis for the relationships between the above variables in this study are discussed next.

Conceptual Framework

The focus of this study is the relationship between a knowledge worker's direct supervisor support for development and transformational leadership behaviors and the knowledge worker's self-directed learning readiness. Given this focus, the present study parallels the conceptual model identified by Noe et al. (1997) but examines only a subset

of the variables identified in that conceptual model. According to the model by Noe et al. (1997), individual and organizational variables will serve as antecedents to the decision to participate in different learning experiences. Individual antecedents considered by the model are immutable characteristics, attitudes and beliefs, and occupational preference. Organizational antecedents are business strategy, climate, and pay systems. The Noe et al. model identifies supervisor support and encouragement as organizational climate variable that should promote participation in development activities. According to Noe et al., employees make decisions about both the amount and type of development activity they will participate in.

Development activities can take the form of assessment, job experience, relationships and courses or programs. Scholars propose that different theories offer different explanations for the decision by employees to participate in a particular amount of or type of development activity. The variable related to the decision process to engage in self-directed learning examined in the present study was self-directed learning readiness. Among other theories, the Noe et al. model identifies both contract theory and the theory of reasoned action as providing possible explanations for the decision process to participate in learning activities – the two theories are discussed below in the context of the present study. Finally, the authors suggest that participation in development activities can lead to learning that manifests as cognitive, skills, and affect outcomes. Self-reported job performance is the element examined in the present study.

In this section the conceptual framework is introduced. First the self-directed learning concept and self-directed learning readiness are explained. Then supervisor support for development is discussed. Next the transformational leadership concept is

reviewed. Finally, the theory of planned behavior is introduced as a potential explanation for the relationship between the two independent variables and the dependent variable that are examined in this proposal.

Self-Directed Learning Readiness

The dependent variable in this study is self-directed learning readiness. Allen Tough is recognized for conducting much of the seminal work in defining self-directed learning and documenting its prevalence (Merriam, 2001). Self-directed learning is learning in which the learner assumes responsibility for initiating and planning their own learning (Tough, 1966). According to Tough (1979), "[i]n a self-planned learning project, by definition, the learner himself [sic] is responsible for most of these day-to-day decisions and arrangements, especially the decisions about what and how to learn in each episode" (p. 94). Clardy (2000) documented that individuals in the workplace do engage in work oriented self-planned learning projects for the purpose of "learning about job, vocational, or occupational subjects" (Clardy, 2000, p. 109). As early as 1979, Penland found that 38% of self-directed learning projects were work related.

Pratt (1988) defined self-directed learning readiness as being both able and willing to engage in self-directed learning (p. 169). Guglielmino (1978) proposed that self-directed learning readiness is a psychological characteristic which determines the probability that "learners will more often choose or influence the learning objectives, activities, resources, priorities, and levels of energy expenditure than does the other-directed learner" (p. 93). Guglielmino and Gugleilmino (2003) further posited that these psychological characteristics constitute a combination of knowledge, attitudes, skill, and habit. Guglielmino and Guglielmino (2003) suggested that individuals may vary on the

degree to which they perceive themselves to ready for self-directed learning and that

readiness can be developed. Since these characteristics can all be developed and

improved, HRD in organizations must take on responsibility to help individuals enhance

their readiness to engage in self-directed learning (Guglielmino & Guglielmino, 2001;

2003).

Supervisor Support for Development

Supervisor support for development is "the degree to which the supervisor was

supportive of efforts to improve work skills, helped develop career plans, provided

ongoing feedback, facilitated participation in learning activities and tired to make the

person believe that he/she was capable of learning and improving at work" (Maurer &

Lippstreu, 2008, p. 336).

The important role of the supervisor as a representative of the organization and the

conduit of organizational support has made the supervisor a focal point in the study of

employee development in the workplace (Kops, 1993; McCauley & Hezlett, 2001; Noe et

al., 1997). The impact of supervisor support on involvement in different development

activity has been studied both singly (Maurer & Tarulli, 1994) and as an aggregate of a

broader supportive work environment construct (aggregated with other variables such as

organization resources, organizational philosophy, or peer support) (Maurer, et al., 2008).

Supervisor support for development is based on social exchange theory and can

be considered a process of exchanging development opportunities for good performance

(Pierce & Maurer, 2009). Drawing on social contract theory (Rousseu, 1989), Noe et al.

(1997) argued that "[i]ndividuals' perceptions or reciprocity between themselves and

their employer regarding development create a responsibility to fulfill the terms of the

contract that exists between them. Employees may perceive an obligation to develop in exchange for rewards that they perceive the organization is obligated to supply" (p. 181). The exchange basis for this supervisor behavior makes it theoretically consistent with what leadership research has characterized as transactional behavior (Bass, 1985; 2008). This form of leadership while effective is considered to be qualitatively different from transformational leadership behaviors and to account for only some of the variance in follower outcomes (Bass, 2008).

Transformational Leadership

Transformational leaders are developmentally-oriented leaders who might stimulate self-direction in learning (Avolio, 1999; Avolio & Gibbons, 1988; Sosik & Jung, 2010). Transformational leadership is a relationally based leadership model which develops people to their full potential and stimulates followers intellectually (Avolio, 1999; Avolio & Bass, 1995; Bass, 1985). The transformational conception of leadership is that certain leaders build relationships with their followers that leave the followers transformed (Bass, 1985). These transformed followers are then able to perform beyond the expectations set by the leaders (Bass, 1985).

The development of followers is a central component of transformational leadership (Avolio, 1999; Bass, 1985). Transformational leaders pay special attention to each individual's needs for achievement and growth by acting as a coach or mentor (Avolio, 1999). Transformational leaders seek to "significantly alter [subordinate's] abilities and motivations" preparing them for "future positions of greater responsibility" (Bass, 1985, p. 85). According to Bass (1985), "[a]s a consequence of this upgrading of needs, subordinates and followers become self-directing and self-reinforcing" (p. 16).

The Theory of Planned Behavior

The theory of planned behavior (Ajzen, 1985; 2005) is the psychological theory that provides the conceptual framework for the study's central relationship – the relationship between a knowledge worker's direct supervisor's transformational leadership behaviors and subordinate self-directed learning readiness. The theory of planned behavior and its predecessor, the theory of reasoned action, has been proposed by multiple scholars as a framework to understand the decision to participate in development (Maurer, 2002; Noe et al. 1997; Ponton & Carr, 2012; Ponton, Carre, & Confessore, 2000). According to the theory of planned behavior, readiness to perform a behavior will be influenced by attitudes toward the behavior, how important others perceive the behavior, and self-efficacy regarding the behavior (Fishbein & Ajzen, 2010).

The theory of planned behavior was developed by Izceck Ajzen as an extension of the theory of reasoned action (Azjen, 2005). The theory of planned behavior seeks to provide a dispositional explanation of intentional behaviors that are "a direct result of deliberate attempts made by an individual" (Ajzen, 2005, p. 99). According to the theory of planned behavior, an individual's intention to act is determined by the interaction of the individual's attitude toward the behavior, social influence, and self-efficacy (Ajzen, 2005). The theory of planned behavior theorizes that behavior is best predicted by intention and actual behavioral control (Ajzen, 1991). Behavioral intention is in turn most effectively explained by attitude toward the behavior, subjective norm (i.e. the perceived pressure by important social groups to engage in or refrain from the behavior), and perceived behavioral control (the belief in the difficulty of engaging in the behavior) (Ajzen, 1991). In the theory, attitudes are the sum of the expectancies of the favorable

outcomes of performing a specific action (Ajzen, 2005). Subjective norms are the

perceived pressure by important social groups to engage in or refrain from the behavior

(Ajzen, 1991). Lastly, intention to act is the result of perceived ability to control

behavior (i.e., belief in the difficulty of engaging in the behavior) (Ajzen, 1991). This

last determinant of behavior is best understood as the individual's sense of self-efficacy

to perform the behavior (Ajzen, 2005).

  The theory of planned behavior provides a possible explanation for the

relationship proposed in this study between self-directed learning readiness and

leadership. In the context of the present study, the theory of planned behavior suggests

that readiness to engage in self-directed learning will be determined by individual level

attitudes, sense of self-efficacy, and perceptions about important referent groups

(Fishbein & Ajzen, 2010). The theory examines "the intention to perform the action

under consideration" (Ajzen, 2005, p. 99). This deliberate, intentional behavior is

consistent with conceptualization of self-directed learning best characterized by Tough

(Ponton, et al., 2000; Tough, 1979). Tough (1979) emphasized the importance of

intentionality and deliberate planning in self-directed learning. For Tough (1979), the

essence of self-directed learning is the self-planning of intentional efforts to learn.

Readiness for self-directed learning is being able and willing to take on responsibility of

this self-planned learning effort (Pratt, 1988).

  The variables in the theory of planned behavior – attitudes, important social

referents, and self-efficacy – have all been included in previous theory building for both

self-directed learning and transformational leadership. Numerous scholars in self-

directed learning theorized about the importance of attitudes (Confessore & Kops,1998;

Guglielmino, 1978; Knowles, 1975; Ponton et al., 2000), important others (Berson el al., 2006; Foucher, 1997; Piskurich, 1994), and self-efficacy (Hoban & Hoban, 2004). The processes by which the theory of planned behavior works have also been related to transformational leadership: influencing attitudes (Jung, Yammarino, & Lee, 2009); creating positive perceptions of self-development (Avolio, 1999; Avolio & Gibbons, 1988; Sosik & Jung, 2010); encouraging the questioning of traditional assumptions (Bass, 1985; Conger & Kanungo, 1998); creating a sense of personal identification with the leader's vision and with the leader as role model (Bass, 1985; Conger & Kanungo, 1998); and, building follower self-efficacy (Shamir, House, & Arthur, 1993). Noe et al. (1997) suggest that the theory of reasoned action may help explain how social support in organizations influence an individual's decisions to participate in development activities" and that "the support of important others (supervisors and peers) influences the individual's own intentions to develop" (p. 179). Transformational leadership may inspire followers to see a different future for themselves and inspire followers to develop themselves (Avolio & Bass, 1995; Sosik & Jung, 2010). Thus, the theory of planned behavior serves as an integrating framework for the central relationship examined in the study between a direct supervisor's transformational leadership behaviors and subordinate self-directed learning readiness.

The conceptual framework for this study is represented in Figure 1. The direct supervisor's support for development and transformational leadership behaviors are related to the self-directed learning readiness of the knowledge worker. As discussed above, social exchange theory and the theory of planned behavior have been suggested as the theoretical basis to explain the possible relationship between the independent

variables and dependent variable. Consistent with theorizing in the continuous learning

research (London & Mone, 1999), self-directed learning scholars reported a relationship

between that self-directed learning readiness and job performance (Guglielmino,

Guglielmino, & Long, 1987; Oliveira, Silva, Guglielmino, & Guglielmino, 2010). Thus,

the relationship between self-directed learning readiness and self-reported job

performance is another relationship of interest.
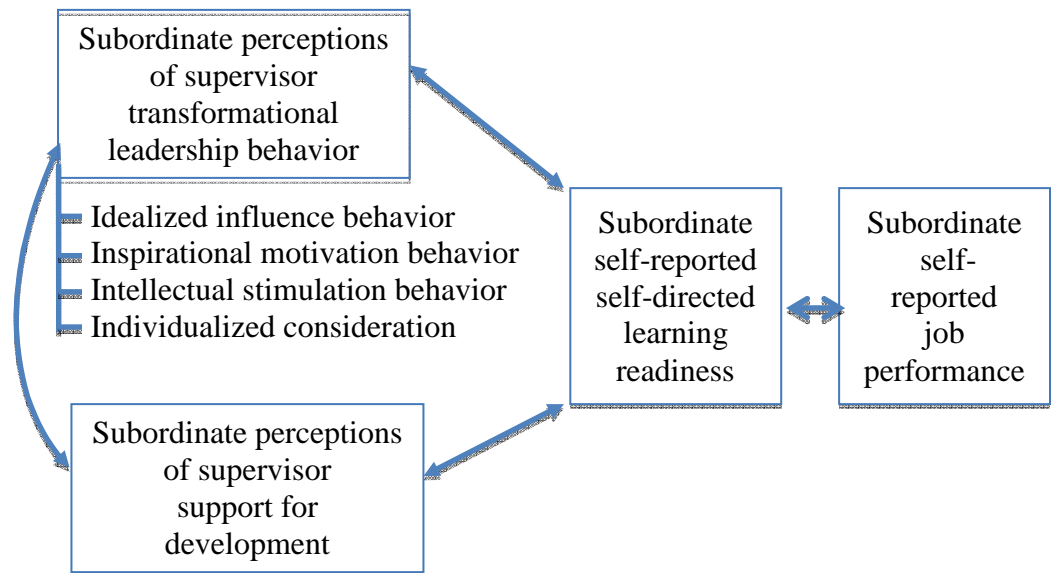
Figure 1. Conceptual Framework

Purpose of the Study and Research Questions

The primary purpose of this study was to determine whether a relationship exists

between the perceived transformational leadership behaviors of a knowledge worker's

direct supervisor (an independent variable) and knowledge worker's self-directed

learning readiness (the dependent variable). Secondarily, the study also examined

whether a perceived relationship exists between the same direct supervisor's supervisor

support for development (the independent variable) and the knowledge worker's self-

directed learning readiness (the dependent variable). Finally, the study examined the

relationship between a knowledge worker self-directed learning readiness (the

independent variable) and the knowledge worker's self-reported job performance (the

dependent variable).   The research questions for this study of knowledge workers follow

below.

1. Is there a relationship between subordinate perceptions of supervisor

    transformational leadership behavior and subordinate self-reported readiness for

    self-directed learning?

    a. Is there a relationship between subordinate perceptions of supervisor

        idealized influence leadership behavior and subordinate self-reported

        readiness for self-directed learning?

    b. Is there a relationship between subordinate perceptions of supervisor

        inspirational motivation leadership behavior and subordinate self-reported

        readiness for self-directed learning?

    c. Is there a relationship between subordinate perceptions of supervisor

        intellectual stimulation leadership behavior and subordinate self-reported

        readiness for self-directed learning?

    d. Is there a relationship between subordinate perceptions of supervisor

        individualized consideration behavior and subordinate self-reported

        readiness for self-directed learning?

2. Is there a relationship between subordinate perceptions of supervisor support for

    development and subordinate self-reported readiness for self-directed learning?

3. Is there a relationship between subordinate perceptions of supervisor transformational leadership behavior and subordinate perceptions of supervisor support for development?

4. Is there a difference between the relationship of supervisor support for development and supervisor transformational leadership behavior on subordinate self-reported readiness for self-directed learning?

5. Is there a difference between the relationship of supervisor idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration leadership behavior on subordinate self-reported readiness for self-directed learning?

6. Is there a relationship between self-reported readiness for self-directed learning and self-reported job performance level?

7. How well do the data in the present sample fit the conceptual model proposed in this study?

<p align="center">**Significance of the Study**</p>

This study is important because self-directed learning holds tremendous potential to help nations, organizations, and individual knowledge workers meet the challenging conditions in the global marketplace (Boyce et al., 2010; Guglielmino, 2008; London & Smither, 1999b). Ongoing, proactive learning has become an essential component of work itself (Guglielmino & Guglielmino, 2001; Kessels & Poell, 2004; London & Smither, 1999a; Sennett, 2006). Self-directed learning represents a non-traditional form of learning that can help meet the unpredictable and continually changing learning needs faced by organizations and their workers (Clardy, 2000; Guglielmino & Guglielmino,

2001; Packer & Sharrar, 2003). According to Guglielmino and Guglielmino (2008), "in the current era of globalization, constant technological change and increased competition, a self-directed workforce is increasingly recognized as the only way to avoid obsolescence and maintain and enhance business success" (p. 302). The present research will add to the understanding of the social and environmental conditions associated with this important form of learning by knowledge workers in for profit organizations competing globally.

This study makes a contribution to the literature because it addresses gaps in the understanding of the social and environmental conditions associated with self-directed learning in the workplace. Despite the apparent benefits of self-directed learning to enhancing ongoing learning in organizations (London & Smither, 1999b), self-directed learning remains understudied in the workplace (Boyce, et al., 2010; Ellinger, 2004). In particular scholars proposed that both the social and environmental conditions impacting self-directed learning in the workplace need to be more fully understood (Bartlett & Kotrlik, 1999; Park & Kwon, 2004). Leadership and the direct supervisor have both been identified as important social variables that should be associated with self-directed learning (Avolio, 1999; Foucher, 1997; Kops, 1997; Mayhew, 2010). Transformational leadership scholars argued that the process by which transformational leadership functions needs to be better understood (Dvir, Eden, Avolio, & Shamir, 2002; Yukl, 2010).

This study represents a new contribution because the relationship between leadership and self-directed learning, while hypothesized, has not been quantitatively substantiated in the literature (Boyce, et al., 2010; Mayhew, 2010). Mayhew (2010)

examined this relationship most directly; however, she was unable to find a relationship between employers' transformational leadership behaviors and adult learners' self-directed learning readiness. The present study was more targeted than the Mayhew research in that the present study was limited to knowledge workers in a Fortune 500 company and was also focused specifically on knowledge workers' perceptions of their direct supervisors' transformational leadership behaviors. Furthermore, the Mayhew study considered transformational leadership behaviors in aggregate while the present study examined the proposed relationship for each of the component behaviors of transformational leadership. More specifically, present study directly examined if the transformational leadership behaviors by the direct supervisor as perceived by the subordinate are associated with knowledge worker's self-directed learning readiness.

In addition to advancing research, this study has important implications for the practice of HRD in organizations. In an environment of high change the areas of practice for HRD will increasingly occur outside the classroom (Clardy, 2000).   Enabling learning in a changing workplace has gained even more importance for HRD (Bradenberg & Ellinger, 2003). HRD must lead organizations to understand the full range of learning options to help employees keep pace with change rather than artificially narrowing learning to that which happens in a training classroom (Tough, 1979). Self-directed learning readkiness in organizations will benefit knowledge workers by broadening the range of learning options available in conditions of high change (Guglielmino, 2008; Knowles, 1975; Tough, 1979). Scholars interested in self-directed learning in industry suggested that organizations and HRD can have a positive impact in

encouraging the practice of self-directed learning by workers (Clardy, 2000; London &

Smither, 1999b; Manz & Manz, 1991).

Understanding the relationship between leadership behaviors and self-directed

learning readiness could help inform an exciting new agenda for the practice of HRD in

organizations. Examining whether self-directed learning is related to specific direct

supervisor behaviors may provide avenues to further encourage self-directed learning

(Berson et al., 2006; Mayhew, 2010). In particular this study will help inform HRD

practitioners about whether specific leadership behaviors by direct supervisors are related

to learning in organizations (Mayhew, 2010; Vera & Crossan, 2004). This knowledge

may provide insight into which leadership behaviors should be encouraged, developed,

and rewarded in organizations. It also has the potential to help organizations recognize

how leaders can create higher levels of learning organizations and ultimately improve

performance (Berson et al., 2006).

Limitations

The method used by the present study introduces several limitations which are

identified below. This study was conducted in a single company which was easily

accessible to the researcher using surveys to self-report both knowledge worker's self-

perceived self-directed learning readiness and perceived transformational behaviors of

their direct supervisor. As a result, the findings may not be generalizable to other

companies (Gall, Gall, & Borg, 2003). The data for this study were collected using

surveys which, by their very nature preclude the capture of "thick" data from respondents

(Dillman, 2000; Gall, et al., 2003). Another limitation is that the information gathered

for this study came from surveys and, therefore, common method bias is possible (Gall,

et al., 2003). Additionally, all the information for each variable was gathered from knowledge workers and therefore, common source bias represents a further limitation of this study (Gall, et al., 2003). Finally, the design of the study represents an inherent limitation since a correlational study cannot make any determination as to causality in its conclusions (Gall, et al. 2003).

In conducting this study certain assumptions were made. The first assumption was knowledge workers answered survey questions truthfully. It was also assumed the HR information system accurately identified knowledge workers as defined for the purposes of this study. A further assumption was knowledge workers' would not have trouble identifying their direct supervisor. A final assumption was knowledge workers were capable of accurately reporting their perceptions of their direct supervisor's leadership behaviors.

Definitions of Terms

The present study examined whether a relationship exists between the transformational leadership behaviors of a knowledge worker's direct supervisor and knowledge worker's self-directed learning in the workplace. A definition of each of the key terms used in this study provided below.

Continuous learning: "The process by which individual and/or organizational learning is fostered on an ongoing basis" (Tannenbaum, 1997, p. 438).

Direct supervisor: The individual in the organization, regardless of level, who directly manages another knowledge worker. The direct supervisor gives the subordinate a performance appraisal.

Development: "Formal education, job experiences, relationships, and assessment of personality and abilities that help employees perform effectively in the current or future job and company. …Because development is future oriented it involves learning that is not necessairly related to the current job" (Noe, 2010, p. 346-7).

Individual continuous learning: "A deliberate and sustained effort to learn, a readiness and desire to acquire new knowledge and skills, actually engaging in activities that allow us to learn, and applying our increased knowledge and new and improved skills" (London & Smither, 1999a, p. 83).

Individual learning: "The acquisition of new knowledge, skills, or attitudes (i.e., competencies) that enhances an individual's capacity for action" (Tannenbaum, 1997, p 438).

Knowledge work: work that is dominated by non-routine, novel problems requiring creative solutions (Drucker, 1993).

Leadership in organizations: "influencing and facilitating individual and collective efforts to accomplish shared objectives" (Yukl, 2012).

Learning experience: "Any event or series of events for which learning is at least one of the intended consequences" (Tannenbaum, 1997, p 438).

Organizational continuous learning: "An organizationwide concern, value, belief , and expectation that general knowledge acquisition and application is important" (Tracey, Tannenbaum & Kavanaugh, 1995, p. 242).

Professional employees: Non-administrative or hourly employees in a company whose work is primarily knowledge work.

Self-development: "is personal development, with the person taking primary responsibility for her or his own learning, and choosing the means to achieve this…. Other views on the meaning and purpose of self-development are career development and advancement; improving performance in an existing job; developing certain specific qualities and skills; achieving total potential – self actualization" (Pedler, Burgoyne, & Pedler, 1994, p. 5).

Self-directed learning: "A process in which a learner assumes primary responsibility for planning, implementing, and evaluating the learning process" (Brockett & Hiemestra, 1991, p. 24).

Self-directed learning readiness: Being "able and willing to take control of and responsibility for all instructional functions" (Pratt, 1988, p. 169).

Supervisor support for development: "The degree to which the supervisor was supportive of efforts to improve work skills, helped develop career plans, provided ongoing feedback, facilitated participation in learning activities, and tried to make the person believe that he/she was capable of learning and improving at work" (Maurer & Lippstreu, 2008, p. 336).

Training: "A planned effort by a company to facilitate employees' learning of job-related competencies. These competencies include knowledge, skills, or behaviors that are critical for successful job performance" (Noe, 2010, p. 5). "Traditionally training is focused on helping improve employees performance in their current job" (Noe, 2010, p.347).

Transactional leadership: "emphasizes the exchange that occurs between a leader and followers. This exchange involves direction from the leader or mutual discussion

with the followers about requirements to reach desired outcomes. Reaching objectives

will appear psychologically or materially rewarding. … If the transaction occurs and

needs of leader and follower are met, and if the leader has the formal or informal power

to do so, he or she reinforces the successful performance" (Bass, 2008, p. 618).

Transformational leaders: Leaders "who stimulate and inspire followers to both

achieve extraordinary outcomes and, in the process, develop their own leadership

capacity" (Bass & Riggio, 2006, p. 3).

Vocationally oriented self-directed learning projects: "Any self-initiated or

directed set of activities with the primary purpose of learning about job, vocational, or

occupational subjects. This learning could be applied to either the respondent's current

job or to another job either with the same employer or with a different, prospective

employer" (Clardy, 2000, p. 109).

Voluntary employee development activity: "learning experiences that are not

mandated or required by the organization" (Maurer & Tarulli, 1994, p. 3).

Work environment: "The physical, social, and psychological conditions that

individuals experience at work" (Tannenbaum, 1997, p. 438).

Chapter Summary

This chapter introduced the study, the problem, the theoretical framework, the

study purpose and research questions, and key definitions. This chapter argued that the

changing dynamics of work have increased the need for continuous learning by

knowledge workers. The need for continuous learning has made self-directed learning an

increasingly important avenue for learning and, thus, placed a premium on understanding

the conditions associated with readiness for self-directed learning. However, it was

argued that self-directed learning readiness in the workplace has been under examined and in particular the conditions in the work environment related to self-directed learning readiness are not fully understood. The population for this study was knowledge workers in publically traded, multi-national companies competing globally and the problem addressed by this study was the lack of knowledge regarding whether the direct supervisor's behaviors (transformational leadership and support for development) are related to subordinate self-directed learning readiness.

The conceptual framework was discussed to show how the present study brings together literature from three academic disciplines to inform this study. The dependent variable for this study - self-directed learning readiness - was identified from the education literature on self-directed learning. The primary independent variable of interest – transformational leadership - was taken from the leadership literature. Given previous findings in employee development research supervisor support for development was included as an independent variable. The study draws its primary independent variable - transformational leadership - from the leadership research literature. The theory of planned behavior provided the conceptual framework for the central relationship. The possible theoretical driver of a relationship between transformational leadership behaviors and subordinate self-directed learning readiness was discussed. It was proposed that this problem is significant because of the inadequacy of traditional pre-employment education and workplace training to meet the learning needs of knowledge workers in businesses competing globally. It was argued that it would be significant to industry, as well as HRD theory and practice to explore whether a potential relationship exists between the transformational leadership behavior of a knowledge worker's direct

supervisor and the knowledge worker's self-directed learning readiness. It was noted that Lippstreu (2010) has called for greater integration of the employee development and transformational leadership literatures; the present study responds to that call and also integrates the self-directed learning literature with these two other disciplines. The present study adds to the literature by integrating variables from these three academic disciplines. The chapter ended with key definitions drawn from the literature in these three disciplines presented. The literature review from the three disciplines that frame this study will be discussed in the following chapter.

CHAPTER TWO

LITERATURE REVIEW

This chapter will review the literature relevant to this study. The failure of traditional forms of learning to keep pace with change threatens to result in the obsolescence of knowledge workers' skills and the reduction in the competitive advantage of the organizations in which they work (National Center on Education and the Economy, 2007). Self-directed learning and readiness for self-directed learning have been identified as avenues to address the learning challenges faced by the knowledge worker (Clardy, 2000; Guglielmino & Guglielmino, 2001; 2008; London & Smither, 1999b). However, important gaps remain regarding understanding of self-directed learning in the workplace (Ellinger, 2004). In particular, leadership behaviors have been hypothesized to be an environmental variable that may be related to self-directed learning readiness in the workplace (Kops, 1993; 1997; Mayhew, 2010; Reichard & Johnson, 2011).

However, the problem is that among knowledge workers the relationship between the transformational leadership behaviors of the direct supervisor and subordinate self-directed learning readiness has not been sufficiently examined (Mayhew, 2010). The present study will seek to address this gap in the literature by examining whether a relationship exists between the perceived transformational leadership behaviors of a knowledge worker's direct supervisor and the knowledge worker's self-reported self-directed learning readiness. In addition, the relationship between a closely related construct - the direct supervisor's support for development - and self-directed learning readiness will also be examined. Finally, given the presumed relationship of self-directed

learning readiness to continuous learning and performance, the relationship between self-directed learning readiness and self-reported job performance will be studied as well.

Following this introductory section, the remaining sections of this chapter will be organized as follows. Self reported job performance is a distal dependent variable in the present study. Therefore, the review of the literature will first situate the present study within the literature discussing the connection between job performance, continuous learning, and self-directed learning. Next the chapter will move on to discuss the relevant bodies of literatures from the three different academic disciplines that inform the present study – self-directed learning research by education scholars, employee development research by management scholars, and leadership research by management scholars. The present study integrates these three academic perspectives and seeks to understand what is the role of the direct supervisor in supporting and encouraging self-directed learning readiness in the work environment.

The second section of this chapter will discuss the primary dependent variable of interest in the present study - knowledge worker self-directed learning readiness in the workplace. In the field of education, self-directed learning scholars tried hard to clarify the construct of self-directed learning and explain how it is distinct from educator led learning. Education scholars have taken the perspective (Van de Ven, 2007) of the learner and an important question in the self-directed learning literature has centered on what are the characteristics of the individual that account for self-directed learning. In particular, individual learner self-directed learning readiness has been a central concept in self directed learning. Therefore, an important focus in education has been to study learner's self-directed learning readiness. However, readiness and the conditions related

to it in the workplace context have been understudied (Ellinger, 2004). The discussion will review the construct of self-directed learning, readiness for self-directed learning, and the self-directed learning readiness in the workplace. The variables highlighted by the theory of planned behavior will be discussed throughout the review of self-directed readiness to demonstrate how previous research on self-directed learning informs a possible relationship between transformational leadership behavior and self-directed learning readiness that was examined in this study.

The present study also drew on the employee development literature to identify the variables in the work environment that should be related to knowledge worker self-directed learning readiness in the workplace. This topic is discussed in the third section of this chapter. In particular, the direct supervisor was identified as a variable in the workplace environment. Given previous findings in employee development research (Maurer & Tarulli, 1994; Maurer et al, 2008), support for development was also included as an independent variable in this study since it has not been previously related to self-directed learning readiness. Thus, the third section of this chapter will include a review of the employee development findings on the relationship between supervisor support for development and the different types of development.

Finally the study was also informed by transformational leadership research. The fourth section of this chapter will review this research. The leadership research, and transformational leadership theory in particular, has sought to identify what leaders do to encourage self-development in followers (Avolio, 1999; Bass, 1985). In the present study, the independent variable of primary interest was the transformational leadership behavior of the direct supervisor. Transformational leadership theory would suggest that

this particular set of leadership behaviors should be related to self-development in a unique way that supervisor support for development (which can be characterized as a transaction based form of leadership) is not (Bass, 1985). The fourth section of this chapter will begin with a broad review of the literature on leadership and what has been studied regarding the relationship between leadership and the development of followers. Recent theory and evidence supporting the relationship between transformational leadership and leader self-development will be discussed. Finally, this chapter will end with a review of recent empirical evidence between transformational leadership and self-directed learning.

Performance, Continuous Learning, and the Need for Self-Directed Learning

Global companies face an environment of high change dominated by continually evolving knowledge work that is expected to lead to the obsolescence of industries, firms, and employee skills on an ongoing basis (National Center on Education and the Economy, 2007; Friedman & Mandelbaum, 2011). Companies competing globally need to develop new core competencies as well as the associated worker skill sets in order to remain competitive (Gupta, et al., 2008; Marquadt & Berger, 2003). Workers must similarly develop new skills as competitive dynamics drive job shifts within and across borders (Hilton, 2008; Marquadt & Berger, 2003). In this environment, knowledge workers must also contend with work that is increasingly dominated by non-routine, novel problems requiring creative solutions (Drucker, 1993).

There is concern that traditional forms of pre-employment education and workplace training will not provide for individual, organizational, or national competitiveness (Hilton, 2008; Langkamer Ratwani, et al., 2010). The view of learning

dominant today in the workplace developed during a time when work focused on control and predictability (Reich, 2007; Swanson & Holton, 2001). In a more static and stable work environment, workers could be prepared for predictably static work via pre-employment education, planned training offerings, and prior work experience (Marsick, Watkins & Volpe, 1999). These traditional approaches to learning are no longer sufficient to address knowledge workers' rapidly shifting learning needs (Clardy, 2000; Guglielmino & Guglielmino, 2001; Molloy & Noe, 2010).

The traditional response to the need for more continuous learning in organizations has been to place more emphasis the provision of training (McCauley & Hezlett; 2001; Tannenbaum et al. 2010). Training is "a planned effort by a company to facilitate employees' learning of job-related competencies. These competencies include knowledge, skills, or behaviors that are critical for successful job performance. Traditionally training is focused on helping improve employees performance in their current job" (Noe, 2010, p. 5, 347). However, external educational agents and even internal company trainers are no longer in the best position to centrally identify and plan the learning needed to maintain competitiveness (Cervero, 2001; Langkamer Ratwani, et al., 2010; Marsick et al., 1999). In the new environment of unpredictable change the onus of responsibility for the decision making and planning about learning (Tough, 1979) shifts closer to the time and place of the work itself (Cervero, 2001; Drucker, 1993; Manz & Manz, 1991). Increasingly organizations must rely on knowledge workers to take responsibility to recognize, initiate, direct, and plan this dynamic, decentralized learning (Bradenberg & Ellinger, 2003; Guglielmino & Guglielmino, 2001; London & Smither, 1999b).

This new reality has as its consequence that employee learning will increasingly be informal, on the job, not-required, future oriented, and ongoing (Birdi et al., 1997, Noe et al., 1997; Tannebaum, et al., 2010). Increasingly workplace learning has been broadened beyond training to encompass learning from assessments, work experiences, relationships, and formal courses (Noe et al., 1997). These forms of learning are increasingly future focused (Birdi et al, 1999), voluntary (Maurer & Tarulli, 1994; Maurer et al, 2008), and self-planned (McCauley & Hezlett, 2001; Reichard & Johnson, 2011). Birdi et al. suggested that "associated with the increasing interest in individual long-term ownership of their development, it is now desirable to examine a wider spread of possible outcomes beyond merely increases in specific job-related skills and knowledge" (p. 848). This shift to a broader conceptualization of learning in the workplace has led to renewed interest in self-directed learning (London & Mone, 1999)

There is agreement across a number of disciplines that learning in organizations will increasingly be self-directed (Guglielmino & Guglielmino, 2008; Langkamer Ratwani, et al., 2010; London & Mone; 1999; Reichard & Johnson, 2010). Self-directed learning is "a process in which a learner assumes primary responsibility for planning, implementing, and evaluating the learning process" (Brockett & Hiemestra, 1991, p. 24). Thus, in the age of continuous learning, the need for self-directed learning by knowledge workers and readiness to engage in self-directed learning continues to increase (Guglielmino & Long, 2011; London & Mone, 1999).

Self-Directed Learning and Self-Directed Learning Readiness

This section on self-directed learning and self-directed learning readiness will be organized as follows. After a broad overview of the major lines of research in self-

directed learning, the first section will proceed with a discussion of how Tough conceptualized self-directed learning as intentional behavior. Next self-directed learning readiness will discussed with particular emphasis on what is known about readiness in the context of the workplace. Finally, the discussion of self-directed learning will end with a examination of what has been studied regarding the influence of important others on workplace self-directed learning. This section on self-directed learning will conclude with a review of the research exploring links between supervisor behavior and self-directed learning in the workplace. The discussion will link self-directed learning literature to the variables from the theory of planned behavior to highlight how previous research informs a possible relationship between transformational leadership behavior and self-directed learning readiness examined in this study.

Self-Directed Learning

Self-directed learning is a mature field with an expansive literature base (Ellinger, 2004; Merriam et al, 2007, Owen, 2000). The genesis of the study of self-directed learning is commonly attributed to Tough (Confesore & Confesore, 1992). Tough was a student of Cyril Houle who became intrigued by learners who took responsibility for planning their own learning (Tough, 1966; 1979). In his early research Tough (1966) conducted interviews to describe which educational activities had been performed by learners who had taken on the responsibility to become "self-teachers" (p. 30). Tough (1979) theorized that adult learning efforts encompassed a "well-defined period of time that is held together by similarity of intent, activity or place of thoughts and actions that occur during it" (p. 8). Tough (1979) argued that the "entire range" (p. 171) of adult learning extended beyond the classroom to include learning projects – " a series of related

episodes, adding up to at least seven hours… [where] more than half of the person's total motivation is to gain and retain certain fairly clear knowledge and skill, or to produce some other lasting change in himself [sic] (p. 7). Tough (2000) found that substantial amounts of adult learning occurred not in classrooms taught by professional educators but instead in everyday life as individuals taught themselves about topics which interested them.

A primary contribution of Tough's work was to extend the conceptualization of adult learning beyond the classroom. In self-directed learning the emphasis of study is shifted to the responsibility and agency of the learner as opposed to external educational agents (Brocket & Hiemestra, 1991; Guglielmino & Guglielmino, 2001; Long, 1990; 2000). Self-directed learning has been called one of the pillars of adult learning (Merriam, 2001) and it has been universally embraced as an important contribution to the adult learning field (Brookfield, 1985; Knowles, 1975; Mezirow, 1985; Merriam, 2001; Tough, 1979). Despite, or perhaps because of, its prominence in adult education the concept has suffered from wide variations in conceptualizations (Candy, 1991; Gerstner, 1992; Merriam, 2001).

According to Long (1990; 1998; 2007), the self-directed learning literature has most consistently been characterized as psychological (Garrison, 1997; Guglielmino, 1978; Knowles, 1975; Long, 1989; Oddi, 1985), pedagogical (Bouchard, 2009; Grow, 1991; 1994; Knowles, 1975; Tough, 1979), or sociological (Brookfield, 1988; Tough, 1979). Similar distinctions have been made other researchers summarizing the literature (Brockett & Hiemestra, 1991; Candy, 1991; Kasworm, 1983; Foucher & Tremblay, 1993). The internal, dispositional, and the pedagogical, behavioral characterizations of

self-directed learning have become well established in the literature (Brockett &

Hiemestra, 1991; Candy, 1991; Long, 2000). While it is possible to view the different

paradigms in self-directed learning as competing, it is also possible that integrating the

perspective allows for more explanatory power of the phenomenon.

One such integrative model is the personal responsibility orientation (PRO) model

advanced by Brockett and Hiemestra (1991). The PRO model reconciles the pedagogical

and the psychological perspectives. The authors proposed the idea of self-direction in

learning to integrate self-directed learning with the supporting intra-individual

characteristics. Self-direction in learning occurs as the result of an individual learner

taking personal responsibility for their own learning (Brokett & Hiemestra, 1991). This

personal responsibility can be understood as planned learning activities that characterize

the teaching-learning transaction or as a dispositional characteristic of the individual

learner (Brockett & Himestra, 1991). The personal responsibility orientation model

incorporates the internal and learning method classification discussed above and extends

it to include considerations in the social environment (Brockett & Himestra, 1991).

Environmental conditions include the role of institutions, policy and national culture in

creating a social context impacting self-directed learning (Brockett & Himestra, 1991).

Ponton et al. (2000) previously argued that the more narrow theory of reasoned

action provides a more general explanation for self-directed learning behavior. The

elements integrated by the PRO model – learner behavior, learner dispositions, and the

social context - suggest that the theory of planned behavior may provide an even broader

set of explanatory factors related to self-directed learning in the workplace. Of particular

relevance to the present study, the role of important others highlighted by the theory of

planned behavior suggests the direct supervisor's leadership behavior might be related to subordinate self-directed learning behavior in the workplace. The theory of planned behavior will be further described below to highlight the literature relevant to this proposed relationship.

Self-Directed Learning as Planned Behavior

As discussed above, the theory of planned behavior identifies the variables related to willful behaviors deliberately chosen by the individual. Intentional behavior is consistent with how Tough (1979) discussed self-directed learning in the literature. Ponton et al. (2000) argued that the outcome to be explained in the study of self-directed learning is a subset of these deliberate behaviors. Bouchard (2009) similarly characterized the workplace interest in self-directed learning as being "concerned with what it is that self-directed learners do" (p. 13). One of Tough's primary contributions to self-directed learning was to recognize, describe, and document these deliberate behaviors (Long, 1992; 2007).

Tough (1979) explicitly and narrowly defined the self-planned learning activities that learners performed when conducting self-directed learning. In his definition of self-planned learning, Tough placed particular emphasis on intentionality and deliberate decision making. In defining self-directed learning, Tough excluded learning that was not the result of deliberate effort. Tough narrowed his scope of study to "sustained, highly deliberate efforts" (p. 17) where the motivation was "gaining and retaining certain knowledge and skill" (p. 13). Tough also took care to distinguish between learning and the mere motivation to perform. He explicitly excluded from his study activities whose primary motivation was intended to achieve a momentary high level of performance.

Within these deliberate efforts, Tough (1979) was most interested in the planning and deciding aspects of learning. Tough posited that four decisions were of particular importance in adult learning efforts. The adult learner first decided whether and what to learn. The learner then decided which "planner" to choose. Should the learner choose themself as the planner the learner then faced countless detailed decisions about the content and strategies for learning. Finally, the learner also at any point in the process faced the decision about whether to continue learning.

For Tough (1979) self-directed learning occurred when the learner choose the self as planner. Tough defined the planner as:

> "the person or thing responsible for more than half of the detailed day-to-day planning and deciding in a learning project. That is, the planner makes the majority of the decisions about what to learn (the detailed knowledge and skills) in each learning episode, and /or how to learn (the detailed strategy, activities, and resources). In addition, the planner may also decide when to begin each learning episodes, and the pace at which to proceed." (p. 77)

One of Tough's (1979) contributions was to clarify self-directed learning by distinguishing between four different approaches to planning learning. According to Tough, it was often assumed that the learner would always turn all responsibility for planning learning over to another person. Alternatively, learners could select a non-human resource to serve this function. A third option was to have a group play the planning role in learning. The fourth option was for the individual to take responsibility and control for their own learning. "In a self-planned learning project, by definition, the learner himself [sic] is responsible for most of these day-to-day decisions and arrangements, especially the decisions about what and how to learn in each episode" (Tough, 1979, p. 94). In these cases the learner was making over half the detailed

decisions about what and how to learn (Tough, 1979). "Planning" was the executive decisions that prepared the learner learn. He believed that in any particular learning situation there might be more than one learning "route" to choose for a particular episode. Tough focused more on the learning activities and behaviors and less on the psychological mechanisms underlying the learning (Long, 2000).

Tough (1979) found that 70%-100% of adults were undertaking at least one major learning effort a year.   Furthermore, 73% of those projects were self-planned. Tough documented that this form of self-planned learning was very prevalent; indeed it was norm rather than the exception. Tough's findings (1966; 1979) demonstrated that adult learners were able to take responsibility for their own learning and plan the necessary learning activities without needing to depend on a professional teacher. Tough's work and methods led to a vast stream of research that substantiated that adult learners are actively involved in their own learning outside of formal direction by educational/institutional actors (Brookfield, 1983; Livingstone, 2001; Penland, 1979; Owen 2002).

Many self-directed learning efforts happen in the workplace and are focused on improving individuals' abilities to perform their work (Guglielmino & Guglielmino, 2008; Livingstone, 2001; Tough, 1979). In an overview of 46 studies on learning in the workplace Long and Morris (1995) reported that employees benefits of self-directed learning in the workplace included taking charge of their learning, adjusting to rapid change, higher flexibility to changing environments, and better morale (Long & Morris, 1995). Self-directed learning behavior has been documented among a variety of

workplace conditions such as non-exempt employees (Clardy, 2000), both for profit and non-profit managers (Kops 1993; 1997), the military (Boyce, et al., 2010).

Self-Directed Learning Readiness

Pratt (1988) defined self-directed readiness as being "able and willing to take control of and responsibility for all instructional functions" (Pratt, p. 169). According to Pratt (1988) readiness entailed both a level of commitment (or motivation) to take responsibility for instruction and, also, confidence (Knowles, et al., 1998). The theory of planned behavior provides the conceptual framework for this study and informs the variables related to readiness highlighted in the discussion that follows. As indicated earlier, the theory of planned behavior posits that readiness to perform a behavior will be the result of "attitude toward the behavior, perceived norm, and perception of behavioral control" (Fishbein & Ajzen, 2010, p.21). Perceived behavior control can also be understood to be self-efficacy (Ajzen, 2005).

Ponton et al. (2000) proposed the theory of reasoned action as an explanatory framework for understanding self-directed learning behavior. The theory of planned behavior proposes that intentional behavior is the product of intra-individual dispositions (i.e. attitudes and self-efficacy) and the social environment (i.e. the social influence of important others)(Ajzen, 2005). The explication of intentional behavior in the theory of planned behavior is consistent with how self-directed learning has been conceptualized in the literature, most notably by Tough (Ponton et al., 2000; Tough, 1979). The dispositional (e.g. Gugleilmino, 1979) and social influence variables (e.g. Mayhew, 2010) identified in the theory of planned behavior have also been theoretically related to self-directed learning. Thus, the theory of planned behavior provides a possible explanation

for how individual knowledge workers might be influenced by intrapersonal factors (self-concept, self efficacy, attitudes and abilities) and important others (the leadership behaviors of direct supervisors) to take responsibility to self-plan their intentional efforts to learn.

The theory of planned behavior identifies attitudes and self efficacy as dispositional predictors of behavioral intentions. The psychological orientation has been characterized as "personal characteristics of the learner – including his [sic] attitudes, his [sic] values, and his [sic] abilities" (Guglielmino, 1978, p. 93). Knowles (1975) argued that "the attitude of the learners" (p. 21) even more so than the learning activities per se that distinguished self-directed learning from pedagogical learning. Knowles (1975) proposed that when learners sought out teaching from expert sources they retained "a searching, probing frame of mind" that viewed teachers as resources to be "exploited" rather than an expert question answerer (p. 21). Knowles (1975) posited the self-directed learner viewed themself as an agent whose role was to identify questions for which they could determine answers. Knowles (1975) also gave high prominence to the self-concept of the learner in his conceptualization of self-directed learning. Knowles (1975) argued "an essential aspect of maturing is developing the ability to take increasing responsibility for our own lives – to become increasingly self-directing" (p. 15). Thus, Knowles (1975) conceived of an agency and initiative that was not diminished because the individual was in a classroom or some other setting. Consistent with the humanistic philosophy of his day, Knowles (1975) adopted a universalistic stand on self-directed learning and championed it as the "best way to learn" (p.10).

A major advancement in the study of the psychological stream of self-directed

learning (Brockett & Hiemestra, 1991; Long, 2000; 2007) resulted from the work of

Guglielmino (1978) to create an instrument for assessing an individual's readiness for

self-direction in learning (p. 4). Tough, Knowles, and Houle, all participated on a panel

of experts that Guglielmino used to develop the instrument (Guglielmino, 1978). Prior to

the introduction of the self-directed learning readiness scale (SDLRS), several other

instruments had been developed but not widely adopted (Long & Confessore,1992).

While not without criticism, the SDLRS continues to be the most widely used instrument

in the quantitative study of self-directed learning (Merrian et al., 2007).

Guglielmino's concept of readiness for self-directed learning assumes that intra

individual psychological characteristics determine the probability that "learners will more

often choose or influence the learning objectives, activities, resources, priorities, and

levels of energy expenditure than does the other-directed learner" (p. 93). Individuals

with these characteristics "would likely be successful in self-directed learning"

(Guglielmino & Guglielmino, 2003, p. 93). The research identified three characteristics

necessary or essential for self-directed learning: initiative, independence, and persistence

(Guglielmino, 1978). Guglielmino (1978) described these characteristics alternatively as

"personality characteristics, attitudes, values, and behaviors" (p. 93) and as "personal

characteristics of the learner – including his [sic] attitudes, his [sic] values, and his [sic]

abilities (p. 93). Attributes such as learning self-confidence, accepting responsibility,

persistence, creativity, independence in learning, openness to help, and valuing learning

on one's own are all importance for readiness (Guglielmino & Guglielmino, 2003).

Manz and Manz (1991) proposed that building employee self-efficacy can increase the

practice of self-directed learning in organizations. This position was supported by Hoban

and Hoban (2004) findings relating self-efficacy for self-directed learning and self-

directed learning readiness.

Self-Directed Learning Readiness in the Workplace

Guglielmino and colleagues argued that in the workplace workers with high levels

of readiness for self-directed learning are well positioned to meet many of the challenges

created by the changing nature of work (Guglielmino, 2009; Guglielmino & Guglielmino,

2001; 2008). Self-directed learners will take responsibility to recognize and address their

most important learning needs (Guglielmino & Guglielmino, 2001). Organizations with

self-directed learners benefit because the responsibility for identifying learning needs can

be distributed out to where learners are working (Guglielmino & Guglielmino, 2001).

Guglielmino and Guglielmino (2008) proposed that employees with high readiness for

self-directed learning will be more effective anticipating new demands and be a source of

competitive advantage. Self-directed learners should be more able to stay current to

changes in knowledge and should be more effective in environments of high change

(Guglielmino & Guglielmino, 2001; Guglielmino, et al., 1987). Workers with high levels

of readiness for self-directed learning will be more effective problem solvers and will

function more effectively in new first time situations (Guglielmino & Guglielmino, 2008;

Guglielmino, et al., 1987). Self-directed learners will actively learn on their own

regardless of the educational setting in which they may find themselves: formal, non-

formal, or informal (Guglielmino & Guglielmino, 2003; 2008). They will make more

effective use of technology and will be beneficial to e-learning (Guglielmino &

Guglielmino, 2003). Learners with high readiness for self-directed learning will use all

the tools available and then "invent those that are not" (Guglielmino & Guglielmino, 2003, p. 32).

The empirical record supports the link between readiness for self-directed learning and readiness and job performance in corporations competing globally. Guglielmino (1978) contended that self-directed learning is best understood as an intra psychological phenomenon that signals a readiness for the individual to participate in ongoing learning. Self-directed learning readiness has been linked meta-analytically to involvement in SDL activity, educational attainment, and growth orientation (McCune, Guglielmino, & Garcia, 1990). Being a highly self-directed learner has been highly correlated to cross-cultural adaptability, conscientiousness, emotional intelligence, strategic thinking, and resilience (Guglielmino & Guglielmino, 2008).

In the workplace, the SDLRS has been used in a variety of business settings and with different audiences (Guglielmino & Guglielmino, 2008). Higher self-directed learning scores have been found for entrepreneurs who presumably face high change and first time environments in their work (Guglielmino & Klatt, 1994). Higher level executives and managers have also been found to score more highly on the self-directed learning scale. Most interestingly, a study conducted with employees from the U.S. multinational telecommunications firm AT&T also found a positive correlation between outstanding performance in jobs characterized by high change and need for problem solving (Guglielmino, et al., 1987). These findings have since been replicated in other high technology firms as well as in international settings (Durr, Guglielmino, & Guglielmino, 1994).

Important Others and Self-Directed Learning

The theory of planned behavior proposes important others are related to the decision to engage in intentional behavior. The role of helpers has always been central to conceptualizations of self-directed learning (Houle, 1993; Knowles, 1975; Tough, 1979). Houle (1961) originally proposed that high levels of continuing education can be excited by stimulators. Houle described the stimulator as "a crusader who uses personal influence. He [sic] has come to understand that continuing education can have great value as a method of achieving goals, as an activity in itself, or as a window opening new vistas of knowledge" (p. 78). Among Tough's (1966) early findings was that self-planned learning occurred with assistance of others. Tough (1979) provided specific recommendations for how to support self-directed learning at each of the self-directed learning decision steps.

Knowles (1975) argued a facilitator played an important role in creating a supportive climate, uncovering assumptions and enhancing abilities for the self-directed learner. Knowles (1975) posited that self-directed learning could be encouraged by the right climate (Spear, 1988). Knowles believed that teachers had an important role to play (often in a classroom setting) in encouraging self-directed learning. While Knowles would be careful to draw distinctions between the role of teacher and facilitator, he maintained "self-directed learning usually takes place in association with various kinds of helpers, such as teachers, mentors, resource people, and peers" (p. 18).

The Group for Interdisciplinary Research on Autonomy (GIRAT) study team in Canada conducted conceptual, qualitative, and quantitative research in the area of self-directed learning in the workplace (Foucher, 1997; 1998). An important contribution of

the GIRAT researchers was to call attention to the role of management policy and leadership in creating environmental conditions conducive to self-directed learning (Foucher, 1996; Foucher & Tremblay, 1993). Reichard and Johnson (2011) incorporated a similar set of factors into a conceptual framework to explain leadership self-development. Reichard and Johnson proposed that continuous leader self-development would be predicted by the motivation to develop leadership; the authors further proposed that this motivation to develop leadership would be influenced by leader characteristics (i.e. knowledge, skills and abilities). Consistent with GIRAT studies, Reichard and Johnson, contended that HR processes (aligned with organizational strategy) would impact group norms and organizational resources which would in turn moderate motivation to develop and leadership self-directed behavior respectively. Guglielmino and Guglielmino (2008) argued mentors could help self-directed learners become "more conscious, capable and confident self-directed learners" (p. 299). Brockett and Himestra (1991) proposed that facilitators who displayed leadership might inspire more self-directed learning.

Relationship Between Self-Directed Learning and Direct Supervisors

Tough (1979) suggested supervisors might play a role in facilitating self-directed learning. More recently, leadership researchers proposed that the relationship between leadership and self-directed learning should be studied (Berson et al., 2006). Self-directed learning researchers similarly argued for employees to be self-directed "it is important that their leaders model this behavior and mentor them in their efforts to become more conscious, capable and confident self-directed learners" (Guglielmino & Guglielmino, 2008, p. 299). In studying organizational factors that might impact self-directed learning

in the workplace, Foucher (1995) identified the supervisor as a potential "development agent." In his examination of self-directed learning in the workplace Piskurich (1992) maintained that supervisors create a climate that "helps the trainee take full advantage of the self-directed learning process" (p. 317). More recently, Langkamer Ratwani, et al. (2010), theorized that the supervisor plays a developmental role in the self-development of leaders. Reichard and Johnson (2011) proposed that a leader's motivation to self-develop as a leader should be moderated by the direct supervisor's leadership style. Reichard and Johnson contended direct supervisors leadership style, along with technology and social networks, was one of the organizational resources that will moderate the relationship between motivation to develop leadership and leadership self-development behaviors.

In two studies with high relevance to the present study, Kops (1993; 1997) conducted interviews with managers on their self-planned learning projects in both a public and private organizations in order to understand how organizational context influenced workplace self-planned learning. Kops (1993) findings were consistent with many of the factors discussed in the literature reviewed above. Kops conducted interviews with 32 managers who engaged in 73 self-directed learning efforts. Kops found that manager participation in self-directed learning was influenced by resources, planning and leadership, policies and practices, the organizational climate, the nature of the organization, external conditions, and the nature of the learner. In particular, Kops (1993) pointed to the role of leadership in creating the organizational climate which he defined as "the prevailing attitude resulting from the leaders' philosophy" (p. 76). According to Kops (1993) "in some cases the learner characteristics exacerbated the

effects of conditions present in the organization, while at other times the nature of the learner counteracted the conditions that influence self-directed learning" (p. 79). Kops argued (1993) "selectively individual may require support and assistance to increase their capabilities and readiness for self-directed learning, or to change their perceptions of the learning situation" (p. 85). Kops provided the following profile of a leader who encouraged self-directed learning: open and effective communicators, high expectations of staff, encouraged and rewarded staff contributions, and created a vision for the company (p. 79). Of particular relevance for this study, Kops also found that supervisors created micro climates that could encourage or discourage self-directed learning.

Summary

The purpose of the present study of knowledge workers is to explore whether a relationship exists between the direct supervior's transformational leadership and support for development behaviors and subordinate self-directed learning readiness in the workplace. Understanding whether these work environment variables are associated with self-directed learning readiness in the workplace will help further our knowledge of this important phenomenon. The theory of planned behavior provides the conceptual framework for this study. The review of self-directed learning research highlighted the variables of the theory of planned behavior in order to suggest how previous research informs a possible relationship between transformational leadership behavior and self-directed learning readiness examined in this study.

An important emphasis for self-directed learning scholars has been to clarify the self-directed learning construct and explain how it is different from educator led learning. The work of Tough was reviewed to help clarify the construct and, in particular, to

illustrate how self-directed learning can be characterized as intentional behavior. The theory of planned behavior suggests that readinesss to engage in intentional behavior is the product of attitudes, self-efficacy, and the social influence of important others (Fishebein & Ajzen, 2010). Readiness for self-directed learning has been an important emphasis among education scholars and the section reviewed what is known about self-directed learning readiness, conceptually and empirically, in the workplace. Finally, the review covered literature relating self-directed learning readiness to the influence of important others, in particular the direct supervisor.

Supervisor Support for Development

The employee development literature is the source of the second strand of research that informs this study. Employee development research has primarily adopted the perspective (Van de Ven, 2007) of the organization. Employee development management scholars sought to understand the mechanisms by which employee development happens in the workplace and the role of organizational support. Two important models are relevant in the current context. Noe et al. (1997) identified a conceptual model of "the relation between antecedents, development activity, and learning outcomes" (p. 155). According the authors (Noe et al., 1997) both individual (immutable characteristics, attitudes and beliefs, and occupational preference) and organizational (business strategy, climate, and pay systems) antecedents affect the decision process to engage in particular types and amounts of development activity. The type of learning activity in turn will result in a particular learning process which in turn will result in a variety of learning outcomes. Of particular relevance for the present study, the model explicitly recognizes a variety of learning activities beyond simply

participating in training. Furthermore, in their model the authors suggested that different behavioral theories might account for the decision to engage in different types of development. More specifically, employee development scholars also suggested that there might be different antecedents to the decision to engage in different forms of development (e.g. work based development or voluntary learning on one's own time; Birdi et al., 1987; Maurer & Tarulli, 1994; Noe & Wilk, 1993). Among the important antecedents, mentioned by Noe et al. (1997) was the role of the direct supervisor.

A second employee development model was one proposed by Maurer and colleagues (2002; Maurer et al, 2008). Maurer (2002) has also done extensive theorizing and research in understanding the variables related to the decision by employees to participate in workplace development. Maurer and colleagues proposed a "general sequence of relationships" that begins with "employee individual and situational variables" followed by "motivational variables for development" and leading to "involvement in development" (Maurer et al, 2008, p. 337). The supervisor is included in the Maurer (2002) model as a situational variable that should be related to employee motivation for development.

The important role of the supervisor as a representative of the organization and the conduit of organizational support has made the supervisor a focal point in the study of employee development in the workplace (Langkamer Ratwani et al., 2010), McCauley & Hezlett, 2001; Noe et al., 1997). Many scholars suggested that supervisors exert control over the resources and opportunities subordinates need for development (Kops, 1994, Langkamer Ratwani, et al., 2010; Noe et al, 1997; Tannebaum, 1997). In addition, it has been suggested that the supervisor creates a climate for subordinates that either supports

or discourages development (Kozlowski & Hults, 1987; Maurer & Tarulli, 1994; Tannenbaum, et al. 2010).

Supervisor support for development is "the degree to which the supervisor was supportive of efforts to improve work skills, helped develop career plans, provided ongoing feedback, facilitated participation in learning activities and tired to make the person believe that he/she was capable of learning and improving at work" (Maurer and Lippstreu, 2006, p. 336). There is widespread agreement that supervisor support for development is related to the decision to engage in different forms of development (McCauley & Hezlett, 2001). Supervisor support for development has been found to relate to voluntary training, 360 feedback, on-the-job learning, and career related training (Maurer, et al, 2008).

The impact of supervisor support on involvement in different development activity has been studied both singly (Maurer & Tarulli, 1994) and as an aggregate of a broader supportive work environment construct including other variables such as organization resources, organizational philosophy, or peer support; (Maurer, et al., 2008). Maurer and Tarulli (1994) found that supervisor support for development was one of four environmental variable related to employee participation in voluntary training programs in a large telecommunications company. Maurer and Tarulli sought to examine how the different sets of variables related to previous participation in voluntary training and previous participation in training. The authors looked at four environmental variables (organizational policies, company orientation toward development, supervisor support for development and co-worker support for development), four person characteristics (self-efficacy, self-perceived need for improvement, career self-insight, and job involvement),

and three perceived outcomes (extrinsic, intrinsic, and pyschosocial benefits). The findings pointed most consistently for the unique contribution of person variables, company policies, and extrinsic outcomes as predictors of participation in voluntary training. However, among the study's important findings was that the value the employee placed on the different predictors moderated the relationship with the outcome variable. Therefore, for employee's who valued supervisor support for their development the study found a stronger relationship between that variable and voluntary participation in training. Finally, the authors contended that several of the personal characteristics such as self-efficacy, self-insight on need for improvement, career insight, and job involvement could all be amenable to influence by the organization.

In a study of engineers, Kolowski and Farr (1988) documented a positive relationship between technical updating by engineers and supervisor support and situational constraints. The importance of supervisor support for development was also documented in a study by London (1993) that found employee perceptions of supervisor support for career development (i.e. providing appraisals, ongoing feedback, joint goal setting, time for training and development planning) was positively related to supervisors' perception of employee career motivation. In a study among manufacturing employees, Birdi, Allan, and Warr (1997) documented a relationship between management support and participation in required trainings, work based development activities, voluntary job-related learning, and career planning activities.

Other empirical work on supervisor support for development has aggregated the supervisor behavior with other measures of work environment support. Noe and Wilk (1993) found that attitudes toward learning, perceived benefits and social support, and

situational constraints all related to development activity (defined as number of courses, number of hours, and intention to participate in future courses). Maurer, Mitchell, and Barbeite (2003) found a relationship between supervisor support and participation in development activities in response to participation in a 360 feedback system. Pierce and Maurer (2009) suggested that employees engage in developmental activities in expectation of getting something of value in exchange for their participation.

Supervisor support for development represents an extension positive organization support (Rhoades & Eisenberger, 2002) – a framework rooted in social exchange theory. Historically the leadership influence process had been conceived of as an exchange between leader and follower in order to achieve outcomes determined by the leader (Bass, 1985; 2008; Shaskin, 2004; Yukl, 2010). In the case of supervisor support for development, it may be that "[i]ndividuals' perceptions or reciprocity between themselves and their employer regarding development create a responsibility to fulfill the terms of the contract that exists between them. Employees may perceive an obligation to develop in exchange for rewards that they perceive the organization is obligated to supply" (Noe, et al., 1997, p. 181). This form of leadership while effective is considered to be qualitatively different from transformational leadership behaviors and to account for only some of the variance in follower outcomes (Bass, 2008). Noe et al. (1997) also suggested that from an expectancy theory perspective "the catalyst for an individual to choose to participate in development activities is motivation through expectation" (p. 180). The scholars (Noe et al., 1997) contend employees will engage in an "effort-performance and performance-outcome" analysis to determine whether to pursue development activities. The exchange basis for this supervisor behavior makes it

theoretically consistent with what leadership research has characterized as transactional behavior (Bass, 1985; 2008).

Kuhernet (1994) argued that exchange focused conceptualizations of leadership emphasized the direct actions leaders take to develop their followers for the purpose of meeting leader driven goals. For example, Kuhnert (1994) suggested that the task-motivated leader will delegate only to serve a task interest and a relationally-motivated leader will delegate mainly to build or sustain a relationship. Thus, the leader remains the educational agent and exchanges developmental actions to achieve pre-determined goals (Avolio, 1999; Kuhnert, 1994). This manager-directed learning leaves learners dependent on the educational agency of the manager and is unlikely to lead to performance beyond what the manager expected (Avolio, 1999; Bass, 1985).

Charismatic and transformational leadership represent a new paradigm of leadership that operates on a qualitatively different basis of influence and outcomes (Bass, 1985; Bryman, 1992). This is a more recent leadership paradigm that conceptualizes leadership as going beyond a transactional relationship with employees focused on "the satisfaction of self-interests" (Bass, 2008, p. 366). Transformational leadership is a motivational form of leadership which helps followers progress towards the higher order states on the Maslow hierarchy of needs (Bass, 2008). Given the theoretical differences in the influence process between the transformational and exchange based leadership, the theory also argues that there are qualitatively different outcomes (Avolio, 1999; Bass, 1985). Empirically, this form of leaderships is theorized to "account for unique variance in ratings of performance (or other outcomes) over and above that accounted for by active transactional leadership" (Bass & Riggio, 2006, p. 11).

Therefore, given the theoretical distinctions between supervisor support for development (transactional leadership) and transformational leadership, the latter could be expected to explain differential variance in self-directed learning readiness. If this is true then charismatic / transformational leadership theories (Avolio, 1999; Bass, 1985; Burns, 1978; House, 1977) have important implications for follower development. The rationale for this expectation will be discussed next.

In the next section the literature on transformational leadership will be reviewed as a possible explanation of how a subordinate's direct supervisor might stimulate subordinate readiness for self-directed learning. The section will begin with a review of what is known about the relationship between leadership and development generally. The section will next examine more specifically the relationship between transformational leadership and self-development. Finally the next section will discuss what is known about the relationship between transformational leadership and self-directed learning.

Leadership

The present section will review the leadership literature relevant to this study. Self-directed learning has been identified as one possible solution to this problem (Clardy, 2000; Guglielmino & Guglielmino, 2001; 2008; Tannenbaum, 1997). The previous section discussed conceptualizations of self-directed learning with relevance to the workplace and how supervisor support for development might be associated with this form of learning in the workplace. One factor researchers proposed should be associated with self-directed learning in the workplace has been leadership behaviors (Berson, et. al., 2006; Boyer, 2009; Kops, 1993; 1997; Mayhew, 2010; Reichard & Johnson, 2011).

The present section will review the literature on leadership with an emphasis on theory building and empirical evidence relevant to the relationship between leadership and follower development and self-directed learning.

This section will be organized as follows. After a brief overview of the major themes in the leadership literature, the review will discuss leadership's impact on followers broadly and then, more specifically, as it impacts follower development. Next the review will highlight how transformational leadership has been theorized to contribute to self-development. The review of transformational leadership research will begin with an overview of the seminal theorists early conceptual work, proceed to a more targeted overview of the conceptual elaborations regarding the developmental effects of transformational leadership, and finally conclude with a discussion of the empirical record linking transformational leadership to self-directed learning.

Broad Themes in Leadership Research

The research on leadership is vast and has been greatly influenced by a succession of paradigms (Bass, 2008; Northouse, 2007; Sashkin, 2004; Yukl, 2010). Progress in understanding this complex phenomenon has been both real and at times frustratingly slow (House & Aditya, 1997). Some of the primary variables examined have been traits (Stogdill, 1948), behaviors (Bowers & Seashore, 1966; Likert, 1961; Oaklander & Fleishman, 1958), and situations/contingencies (Fiedler, 1978; Hersey & Blanchard, 1969; House, 1971). The units of analysis have been leaders, followers, dyads, groups, and collectives (Yammarino, et al., 2005). These various variables have been studied singly and in combination at various levels of analysis with differing perspectives on the essentialism of their nature (Grint, 1997; Yammarino, Dansereau, & Kennedy, 2001).

In his reviews of the literature, Yukl (2010; Yukl & Lepsinger, 2004) has stated that follower learning and individual development is one of the outcomes that leadership influences. A consistent distinction in the leadership research has been between task-oriented and human relations-oriented behaviors (Bass, 2008; Bowers and Seashore, 1966; Likert, 1961; Katz, 1955; Oaklander & Fleishman, 1958; Yukl & Lepsinger, 2004). The development of followers has been often been proposed as an outcome of human relations-oriented behaviors (Yukl & Lepsinger, 2004). The behavioral based leadership studies conducted at the University of Michigan considered not only the nature of the relationship between employees and leader but also the leader's role in helping the subordinate develop (Yukl, 2010). During the situational era of leadership study (Grint, 1997), the model developed by Hersey and Blanchard (1969) took followers' level of development as its point of departure. In this conceptualization of leadership, leaders needed to match their leadership behavior to the follower's level of development (a combination of competence and commitment)(Northouse, 2007).   The essence of the model assumed that leaders should provide high levels of direction and support while followers were less mature but ultimately the manager should move to delegating to more mature followers (Northouse, 2007). Yukl and Lepsinger (2004) contend that the leader with a human relations focus will undertake a variety of developing behaviors: giving feedback on abilities, being patient, providing opportunities to learn new skills, facilitating training attendance, and giving advice to support career success.

Leadership that Develops and Transforms Followers

A new perspective on leadership with important implications for follower development arose in the late 1970's with the advent of the charismatic / transformational

leadership theories (Bass, 1985; Bryman, 1992; Burns, 1978; House, 1977). The charismatic / transformational leadership paradigms had their genesis when two scholars House (1977) and Burns (1978) identified a "new" form of leadership based on a highly motivating relationship between leader and follower (Bass, 1985; Bryman, 1992; Shaskin, 2004). In its essence the new paradigm posited that the presence of a highly motivational (i.e. charismatic) relationship between leaders and followers has an intrinsic affect on followers (i.e. transformation) such that they deliver "performance beyond expectations (Bass, 1985; Bryman, 1992; Klein & House, 1995; Shamir et al., 1993). At the heart of both theories is the Weberian concept of charisma – an idealized and highly motivated view of the leader that inspires followers to transcend their self-interests and achieve higher aspirations than either they or the leader thought possible (Bass, 1985). This effect is theorized to contribute to the performance of individuals, teams, and organizations (Bass & Riggio, 2006). Charismatic leadership and transformational leadership are closely related and often seen as interchangeable (Judge & Piccolo, 2004; Yukl, 1999). The three seminal theorists of transformational and charismatic leadership were Burns (1978), House (1977) and Bass (1985). Highlights of their primary contributions and implications for development will be briefly reviewed next. A detailed discussion of the developmental implications of transformational leadership will then follow.

Burns (1978) introduced the term transformational leadership to describe leaders who chose to influence followers by developing those followers' higher order needs (as defined by Maslow's hierarchy of needs). Burns (1978) contrasted this influence approach to a transactional influence which sought only to meet follower's current (i.e.

lower order) needs. Transformational leadership theory is viewed as going beyond

previous approaches to leadership which emphasized an exchange perspective to

influence (Bass, 1985; Shaskin, 2004). In transactional leadership, leaders focus on

helping the follower achieve what is expected of them (Bass, 1985). In the charismatic /

transformational paradigm the leader seeks to elevate follower needs to a higher order

rather than simply meet existing needs (Yammarino & Dubinsky, 1994). This

inspirational form of leadership is intrinsic compared to other more extrinsic historical

approaches (Bass & Riggio, 2006).

House's (1977) original conceptualization of charismatic leadership emphasized

the inspirational influence that leaders have on followers. Charismatic leaders use

visionary behavior, image building, empowering behavior, risk taking, and the

challenging of assumptions (House & Shamir, 1993). The leader's charismatic behaviors

produce an identification first with the leader and then with the leader's goal (Conger &

Kanungo, 1998). Shamir et al. (1993) theorized that these behaviors by the leaders would

result in behaviors by the followers of "personal commitment to the leader and the

mission, a willingness to make sacrifices for the collective mission, organizational

citizenship behavior, meaningfulness in their work and lives" (p. 587). These leaders

also engage in innovative and unconventional actions that cause followers to reframe

assumptions and view situations in new ways (Bass & Avolio, 1994; Conger & Kanungo,

1998). Scholars in the charismatic tradition also emphasized the power of vision to excite

followers and have followers identify with a different view of the future (Bennis &

Nanus, 2007; Shaskin, 2004). Yukl (2010) stated that ultimately "charismatic leaders

probably do more things that foster an image of extraordinary competence for the leader"

(p. 286) and thus, are more likely to create a sense of dependence on the leader.

Bass (1985) extended Burns' original work by more fully defining

transformational leader behaviors. For Bass (1985) charisma was just one of four

dimensions of transformational leadership. As conceptualized by Bass (Avolio & Bass,

2004; Bass, 1985; Bass & Avolio, 1993;) in addition to charisma and inspiration building

behaviors, transformational leaders stimulated followers intellectually and demonstrated

an individual concern for follower development. Inspirational motivation was closely

linked to charisma but was distinct in that it builds follower commitment to a vision and

was less closely associated to the leader themselves (Avolio & Bass, 2004; Bass, 1985;

Bass & Riggio, 2006). Bass (1985) considered both charisma and inspiration the

emotional dimensions of transformational leadership; however, he included two

additional behaviors as part of transformational leadership. Intellectual stimulation

encouraged the follower to question old ways of doing things and explore new

possibilities to solve problems (Avolio & Bass, 2004; Bass, 1985). Individualized

consideration is the last dimension of transformational leadership and has to do with the

leader paying personal attention to the follower's needs and helping them move beyond

those needs to higher order needs (Avolio & Bass, 2004; Bass, 1985; Bass & Avolio,

1993).

In his comparison of charismatic and transformational leadership (Yukl, 2010)

concluded "the essence of transformational leadership appears to be inspiring,

developing, and empowering followers" (p. 285). The transformational leader behaves in

a charismatic way that makes them appealing to the follower, they help the follower

identify with a higher order (i.e., on Maslow's hierarchy) vision that transcends the self,

they stimulate the follower intellectually to think in new and different ways and they help

the follower personally develop to their capabilities to do more than they thought possible

(Bass, 1985; Conger & Kanungo, 1998). Followers, in turn, then accomplish more than

either the leader or the follower may have thought possible (Bass, 1985). According to

Yukl (2010) transformational leaders "probably do more things that will empower

followers and make them less dependent on the leader" (p. 286).   Both intellectual

stimulation and individualized consideration have been proposed to be the behaviors

most likely to lead to personal identification with the leader and to operate in such a way

that might stimulate development (Kark & Shamir, 2008; Wang & Howell, 2010).

Empirical Support

Charismatic / transformational leadership is widely regarded as having strong

empirical support (Bass, 1999). Most empirical studies tend to treat the four dimensions

of transformational leadership as single factor since they are so highly correlated (Judge

& Piccolo, 2004). In addition most of the impact of transformational leadership measures

have tended to come from the charismatic dimension (Yukl, 2010). Numerous research

studies found positive relationships between charismatic / transformational leadership

and improved follower satisfaction, motivation, and performance (Bass & Riggio, 2006;

DeGroot, Kicker, & Cross, 2000; Judge & Piccolo, 2004; Lowe, Kroeck, &

Sivasubramaniam, 1996). Two meta-analyses confirmed that charismatic /

transformational leadership is correlated with performance outcomes (Judge & Piccolo,

2004; Lowe, et al., 1996). In general, the empirical results have been more effective at

predicting subjective (such as self-reported commitment, effort and performance) rather

than objective performance (Judge & Piccolo, 2004; Lowe, et al., 1996).

Transformational leadership effects have been more predictive of performance in

government, military, and non-profit settings than in business settings (Judge & Piccolo,

2004). In their meta-analysis Lowe et al. (1996) found relationships between

performance effectiveness and each of the transformational leadership measures. While

results have been mixed charismatic / transformational leadership has been found to

influence follower self-concept and self efficacy (Van Knippenberg, Van Knippenberg,

De Cremer, & Hogg, 2004).

Developmental Effects of Transformational Leadership

Transformational leaders are developmentally minded (Bass, 1985). Avolio and

Bass (1995) theorized that all four components of transformational leadership contribute

to the leader's developmental impact on followers. The scholars posited idealized

influence might enable role modeling that could lead a follower to improved performance

(Avolio & Bass, 1995). Avolio and Bass also proposed that inspirational motivation

might stimulate in the follower a need to grow and might provide a goal or sense of

direction for that development. Intellectual stimulation might spark creativity in

approaches to improvement (Avolio & Bass, 1995). However, in particular, the long

term development of the follower is the distinguishing characteristic of the individualized

consideration behaviors of the transformational leader (Bass, 1985; Kuhnert, 1994).

Avolio and Bass (1995) argued that it is hard to understand transformational

leadership without taking into account individualized consideration. Individualized

consideration "conceptually builds on two aspects of behavior, individualization among

followers…and development of followers" (Bass & Avolio, 1993, p. 63).

Transformational leaders will pay individualized attention to each member of the group in order to help elevate each follower's needs (Atwater & Bass, 1994). They are effective communicators and listen well in order to identify what is needed by each individual (Bass & Avolio, 1994). Individualized consideration entails sufficiently understanding followers in order to know how what will best help followers learn (Avolio, 1999). These leaders are accepting of individual differences (Bass & Avolio, 1994). Transformational leaders coach and mentor each individual based on their needs for achievement and growth (Bass & Avolio, 1994). Leaders take time to understand followers' strengths and weaknesses; they build follower confidence and efficacy and they articulate for that follower a compelling vision of the future (Avolio, 1999). Transformational leaders "provide opportunities that support growth and development, risk taking, and innovation based on individual needs and capabilities (Atwater & Bass, 1994, p. 75). Eventually followers will ask themselves "Who am I, and what am I now capable of doing?" (Avolio, 1999, p. 170).

Individualized consideration represents an important departure from the consideration scale in The Ohio State University Leadership Studies (Bass & Avolio, 1993). As discussed above, previous conceptualizations of leadership focused on transacting with followers for the purpose of accomplishing a specific task the leader could anticipate (Bass, 1985; Kuhnert, 1994). Instead individualized consideration entails "leadership that addresses the differences across individual, the development of those individuals, and the qualitative transformation that occurs from basing human interactions on self-interest to basing them on an interest in others, and ultimately on principles that guide the leader to do what's best for his/her group" (Avolio & Bass,

1995, p. 201). As a result, the transformational leader focuses on the "long-term goals and interests of the organization as well as of the individual, rather than be shackled by immediate or short-range goals" (Kuhnert, 1994, p. 19). Ultimately, transformational leadership shifts the focus from the followers' behavior to their development and empowerment (Kark, Shamir, & Chen, 2003).

Dvir et al. (2002) found evidence supporting the developmental impact of transformational leadership on extra effort, self-efficacy, and critical-independent approach (thinking independently, questioning assumptions, and taking initiative). More recently, Hannah and Lester (2009) posited that leaders can impact a follower's ability, orientation and openness to learn. The authors termed this combination developmental readiness and reported that it is enhanced by goal orientation, efficacy and metacognitive ability. Wang and Howell (2010) proposed that the mechanism by which transformational leaders motivate followers at the individual level is through behaviors "aiming to empower individual followers to develop their full potential, enhance their abilities and skills, and improve their self-efficacy and self-esteem" (p. 1135). Consistent with this theorizing the authors found support for a positive relationship between developmentally oriented transformational leadership behaviors and both job performance and task performance at the individual level of analysis.

Transformational Leadership and Leader Self-Development

Transformational leaders have a plan to develop each follower into an ongoing leader (Avolio, 1999). Bass conceived of individualized consideration as a personalized understanding of the follower for the purpose of recognizing how to help them move up Maslow's hierarchy of need so they become self directing and self-reinforcing (Bass,

1985). For Avolio (1994) the ultimate goal of individualized consideration is for the

follower to learn to take responsibility for their own development (Avolio, 1994; Dvir, et

al., 2002). The source of performance beyond expectations is in inner-directed followers

continuously developing their abilities and rising to higher levels of motivation (Avolio,

1994). Transformational leaders must also recognize their own responsibility to help

followers develop to their full potential (Avolio, 1999).   At their best, transformational

leaders develop their followers into leaders who in turn develop others into leaders

(Avolio, 1999).

 The research of Avolio (1999, 2004; Avolio & Bass, 1995; Avolio & Gibbons,

1988) has made many contributions to understand this process.   Avolio and Gibbons

(1988) theorized that one of the goals of transformational leaders is to help followers take

responsibility for their own development as leaders. It is by creating this personal

responsibility for self-development that transformational leaders help followers become

leaders (Avolio & Giboons, 1988). Building on social learning theory, Avolio and

Gibbons (1988) theorized that transformational leaders might build follower self-efficacy

thus empowering them to further develop themselves. The authors similarly suggested

that transformational leaders focus on individual consideration and intellectual

consideration would develop follower self-management. Avolio (2004) theorized that

leader self-development was enabled by self-awareness and self-regulation. According to

Avolio "creating an environment or culture that supports learning goal orientation focus

could contribute to greater self-awareness, self-regulation and self-development. This is

exactly the type of environment that transformational leaders create for followers"

(Avolio, 2004, p. 84). Avolio (2004) also proposed that transformational leaders'

individualized consideration can help leaders understand followers' current state of developmental readiness. Intellectual stimulation can provide permission to question assumptions and thus create "conditions in which followers and associates are more willing to learn" (p. 84). In a closely related study to this study, Lippstreu (2010) found direct relationships between direct supervisor transformational leadership and follower motivation to develop leadership.

This section has explored the proposed relationship between leadership and development. In particular, the role of the supervisor as a supporter of follower development was discussed and the developmental impact of the transformational leader was reviewed. The discussion above has highlighted conceptual linkages between leadership and development generally and as it relates to the self-development of leaders. In the final part of this section, the conceptual framework for the relationship between transformational leadership and self-directed learning will be reviewed in light of the above discussion. The leadership section will conclude with discussion of the empirical record for the relationship between transformational leadership and self-directed learning.

Transformational Leadership and Self-Directed Learning

The theory of planned behavior (Azjen, 2005) provides the conceptual framework for explaining the present study's proposed relationship between self-directed learning and transformational leadership behaviors of the direct supervisor. As discussed earlier, Tough (1979) characterized self-directed learning as intentional efforts in which the learner took primary responsibility for the day to day planning and deciding regarding their own learning. "To be more precise, they are responsible for most of the detailed decision making about learning, including choices about what to learn, how to learn and

at what pace the learning will occur" (Confessore & Kops, 1998, p. 367-368).   The

theory of planned behavior theorizes that behavior is best predicted by intention and

actual behavioral control (Ajzen, 1991). Behavioral intention is in turn most effectively

explained by attitude toward the behavior, subjective norm (i.e. the perceived pressure by

important social groups to engage in or refrain from the behavior) and perceived

behavioral control (the belief in the difficulty of engaging in the behavior) (Ajzen, 1991).

The theory of planned behavior thus suggests that the leadership relationship with self-

directed learning might be understood as the result attitudes, social referents and self-

efficacy.

In the theory of planned behavior, attitudes are the sum of the expectancies of the

favorable outcomes of performing a specific action (Ajzen, 2005). As discussed

previously, Guglielmino (1978) described self-directed learning readiness as "personality

characteristics, attitudes, values, and behaviors" (p. 93) and as "personal characteristics

of the learner – including his [sic] attitudes, his [sic] values, and his [sic] abilities" (p.

93). Attitudes such as learning self-confidence, accepting responsibility, persistence,

creativity, independence in learning, openness to help and valuing learning on one's own

are all importance for readiness (Guglielmino & Guglielmino, 2003). Conger and

Kanungo (1998) argued that the outcomes of the leader's charismatic behaviors are

changes in follower "beliefs, attitudes, values and behaviors" (p. 63). According to

Avolio (1999), transformational leadership creates positive attitudes towards taking on

the role of being the educational agent in ones development. Transformational leaders

may help followers to see a different future for themselves and inspire self-development

(Avolio, 1999; Avolio & Bass, 1995; Sosik & Jung, 2010). Guglielmino and

Guglielmino (2008) maintained that self-directed learners will benefit when assisted in gaining an understanding of self-directed learning, self-assessing on their self-directed learning readiness and finding opportunities for self-directed learning. As discussed earlier, Avolio and Bass (1995) proposed that inspirational motivation might stimulate in the follower a need to grow and might provide a goal or sense of direction for that development. The authors also contended that intellectual stimulation might spark creativity in approaches to improvement (Avolio & Bass, 1995).

Subjective norms are the perceived pressure by important social groups to engage in or refrain from the behavior (Ajzen, 1991). Guglielmino and Guglielmina (2008) suggested that leaders may also impact followers through role modeling of the leaders' own self directed learning. Grow (1991; 1994) and Pratt (1988) conceptualized self-directed learning as developing over time facilitated by developmental relationships that encouraged self-direction in learning. The impact of charisma is to make the leader more important to the follower. Followers develop favorable impressions of the leader that lead them trust leaders, emulate their values, accept challenging goals, and become more confident about their own performance (House, 1977). The leader's behaviors develop among the followers a heightened sense of confidence in the individual (Conger & Kanungo, 1998). Kark et al. (2003) argued that transformational leadership that activates personal identification with the leader may result in follower development. Maurer and Tarulli (1994) found when employees valued supervisor support more highly, it was more likely that supervisor support for development would be associated with follower participation in voluntary training.

The final element identified by the theory of planned behavior is perceived ability to control behavior (i.e. the belief in the difficulty of engaging in the behavior)(Ajzen, 1991). This last determinant of behavior is best understood as the individual's sense of self-efficacy to perform the behavior (Ajzen, 2005). Tough (1979) demonstrated that the self-planned learner must demonstrate initiative and agency regarding daily decisions to plan and manage the content and method of learning. Manz and Manz (1991) suggested that building employee self-efficacy can increase the practice of self-directed learning in organizations. As indicated earlier, Hoban and Hoban (2004) documented that self-efficacy for self-directed learning was related to self-directed learning readiness. Shamir et al. (1993) theorized that charismatic leadership improved both self-efficacy and collective efficacy. Shamir et al. postulated that charismatic leader behavior will impact follower self-concepts which will in turn result in motivational effects that impact follower behaviors. The effect of transformational leaders on followers' self-concept suggests avenue by which self-directed learning may be enhanced. Changes to follower's sense of self-esteem, self-efficacy, and movement toward self-actualization may all work toward leading followers to view themselves as educational agents responsible for their own ongoing self-development as leaders (Avolio, 2004; Avolio & Bass, 2004; Avolio & Gibbons, 1998).

The above discussion suggests avenues by which transformational leadership may be related to self-directed learning in the marketplace. However, the empirical record has not been sufficiently examined in the workplace and the few findings have been inconsistent. In a study of great relevance for the present study, Lippstreu (2010) examined the relationship between transformational leadership (in aggregate) and both

motivation to engage in leadership self-development and also subsequent leadership self-development activity. Lippstreu (2010) found that supervisor transformational leadership was related to self-efficacy to develop as a leader and motivation to develop as a leader. Supervisor transformational leaders was also further related to intention to self-develop as a leader. Based on transformational leadership theory (Bass, 2008) Lippestreu (2010) hypothesized that transformational leadership would have a "development" augmentation effect (p. 21).   That is, that transformational leadership should explain incremental variance in variance in self-efficacy and motivation to develop as a leader over and above that explained by other forms of leadership (Bass & Riggio, 2006). However, contrary to transformational leadership theory, Lippstreu (2010) did not find support for an augmentation effect on leader self-development

The relationship between transformational leadership and self-directed learning readiness was directly examined by Mayhew (2010). Mayhew conducted her study among working adults seeking a bachelor or master's degree at a private midwest university. The working adults were studying management, teaching, and nursing in the evenings and weekends.   Mayhew used the multi-factor leadership questionnaire (MLQ) to measure the student's perceptions of the transformational leadership of their employers. These working adults were also asked to complete the Learner Preference Assessment (LPA) to measure their self-directed learning readiness.   Mayhew was unable to find a significant relationship between employers' transformational leadership behaviors and adult learners' self-directed learning readiness. Mayhew reported a non-significant Pearson correlation of .09 with an alpha level of .25. In her study Mayhew did not explicitly define the leadership target; instead the working students were asked to

assess the leadership behaviors of their "employer." Furthermore, the Mayhew study examined only the relationship between the aggregate transformational leadership behavior scores and the aggregate LPA score. Several distinctions can be drawn between the present study and the Mayhew study. The present study was conducted with a sample – knowledge workers in a Fortune 500 company - that should be facing high needs for self-directed learning in the workplace. In addition the leadership target in the present study is being explicitly identified as the employees' direct supervisor. Finally, unlike the Mayhew study, which considered transformational leadership behaviors in aggregate, the present study will also examine the proposed relationship for each of the component behaviors of the MLQ.

Summary

Azjen (2005) theorized that individual attitudes, important others, and self-efficacy will each play a distinctive role in impacting intentions to engage in generalized behaviors across time, context, and targets. If leaders can impact attitudes toward learning, the salience of social norms about the value of learning and employee self-efficacy to learn, then a generalized intention to manage ongoing learninge (i.e. a readiness for self-direction) may be the result. Transformational leadership theory posits a leadership affect on the variables highlighted in the theory of planned behavior. Transformational leadership is a developmentally oriented form of leadership. Transformational leaders may impact the follower's view of the future and their sense of the importance of learning. These leaders may encourage the questioning of assumptions about the nature of who plans learning and enhance the learner's self-concept and self-efficacy as a learner. Role modeling might also play an important role in the follower to

engage in self-planned learning. Transformational leaders might enhance follower

motivation to continue to learn. Tough (1979) proposed that four decisions are necessary

for self-planned learning to occur. Transformational leadership has the potential to

impact each of those decisions and thus enhance self-directed learning readiness in multi-

national organizations competing in the global marketplace. The transformational leader

may thus enhance self-planned learning by helping the learner to decide whether and

what to learn, what planner to choose, make the daily decisions about the content and

method of learning and decide to continue to learn.

This section explored the proposed relationship between leadership and

development. First, transformational leadership was situated in the broader stream of

relationship oriented leadership. The empirical record for the role of the supervisor as a

supporter of follower development was discussed.   Then the developmental focus of

transformational leadership was discussed. The developmental focus of transformational

leadership was highlighted as was its conceptual linkages to leader self-development.

The final part of this section reviewed conceptual linkages between transformational

leadership and self-directed learning. The section concluded with a review of the sparse

empirical record linking transformational leadership and self-directed learning.

Chapter Summary

The purpose of the present study was to examine whether a relationship existed

between the perceived transformational leadership behaviors of a knowledge worker's

direct supervisor and the subordinate knowledge worker's self-reported self-directed

learning readiness. Additionally, the study also examined whether a relationship exists

between supervisor support for development and self-directed learning readiness.

Finally, the study also examined whether a relationship existed between self-directed

learning readiness and self-reported job performance. This study is important because

self-directed learning has been advanced as a means address the rapidly changing

learning requirements faced by knowledge workers (Clardy, 2000; Guglielmino &

Guglielmino, 2001; 2008). The problem is that whether direct supervisor behaviors (both

transformational leadership and support for development) are related to self-directed

learning readiness in the workplace is not understood (Mayhew, 2010). The present

chapter reviewed the literature relevant to this study. The next chapter presents the

method for examining the proposed relationship of interest to this study. The research

design, sample and populations, data collection, instrumentation and data analysis will all

be discussed.

CHAPTER THREE

METHOD

The purpose of the present study was to determine if a relationship exists between transformational leadership behavior of a knowledge worker's direct supervisor and knowledge worker self-directed learning readiness. Additionally the study examined whether a relationship exists between the supervisor support for development behaviors of a knowledge worker's direct supervisor and the subordinate knowledge worker's self-directed learning readiness. The study also examined whether a relationship exits between knowledge worker self-directed learning readiness and knowledge worker self-reported job performance. It was argued in Chapter One that it is important to extend the understanding of self-directed learning in the workplace because rapid changes in knowledge and competitive pressures caused by globalization require knowledge workers stay current with the rapidly changing knowledge upon which their work depends (Clardy, 2000; Friedman & Mandelbaum, 2011; Guglielmino & Guglielmino, 2001; 2008). Chapter Two reviewed the current literature on self-directed learning readiness in the workplace and the relationship of leadership to self-directed learning readiness. Of particular relevance to the present study, previous literature had suggested that the direct supervisor is one variable in the social environment that may be associated with self-directed learning readiness (Kops 1997; Mayhew, 2010; Reichard & Johnson, 2011).

This correlational study used survey research methods to determine if a relationship exists between the perceived transformational leadership behaviors of a knowledge worker's direct supervisor (the independent variable) and that knowledge worker's self-reported self-directed learning readiness (the dependent variable). The

study also examined whether a relationship exists between supervisor support for development (independent variable) and self-directed learning readiness (dependent variable). Finally, the study also examined whether a relationship existed between self-directed learning readiness (independent variable) and self-reported job performance (dependent variable). The relationships in this study were examined using surveys to collect self report data on both the knowledge worker's self-perceived self-directed learning readiness and the knowledge worker's perceptions of the transformational behaviors of the direct supervisor. This chapter will discuss the research method used for this study. The discussion will include research design, sample and population, data collection, variables, instrumentation, and data analysis. The study was conducted among knowledge workers and addressed the following research questions.

1. Is there a relationship between subordinate perceptions of supervisor transformational leadership behavior and subordinate self-reported readiness for self-directed learning?

    a. Is there a relationship between subordinate perceptions of supervisor idealized influence leadership behavior and subordinate self-reported readiness for self-directed learning?

    b. Is there a relationship between subordinate perceptions of supervisor inspirational motivation leadership behavior and subordinate self-reported readiness for self-directed learning?

    c. Is there a relationship between subordinate perceptions of supervisor intellectual stimulation leadership behavior and subordinate self-reported readiness for self-directed learning?

     d.   Is there a relationship between subordinate perceptions of supervisor

        individualized consideration behavior and subordinate self-reported

        readiness for self-directed learning?

2. Is there a relationship between subordinate perceptions of supervisor support for

    development and subordinate self-reported readiness for self-directed learning?

3. Is there a relationship between subordinate perceptions of supervisor

    transformational leadership behavior and subordinate perceptions of supervisor

    support for development?

4. Is there a difference between the relationship of supervisor support for

    development and supervisor transformational leadership behavior on subordinate

    self-reported readiness for self-directed learning?

5. Is there a difference between the relationship of supervisor idealized influence,

    inspirational motivation, intellectual stimulation, and individualized consideration

    leadership behavior on subordinate self-reported readiness for self-directed

    learning?

6. Is there a relationship between self-reported readiness for self-directed learning

    and self-reported job performance level?

7. How well do the data in the present sample fit the conceptual model proposed in

    this study?

Research Design

This was a correlational study using survey research methods to examine

relationships. All the variables for this study were measured using survey data (Gall et

al., 2003). This was a cross sectional study in which all the data were gathered at a single

point in time. Correlational methods were used because the goal was to understand the variance in the dependent variable associated with variance in the independent variables (Gall et al., 2003). Quantitative methods were appropriate because self-directed learning and transformational leadership are each mature, well supported, and well established constructs (Bass & Riggio, 2006; Brockett & Hiemestra, 1991; Edmunson & McManus, 2007).

Population and Sample

The population for this study was knowledge workers employed in publically traded, multi-national companies competing globally. Publically traded multi-national companies seeking to attract investment from a global capital market in particular face pressure to sustain global competitive advantage (Reich, 2007). This global competition creates rapid, continual, and unpredictable changes in the nature of work (Hilton, 2008). Guglielmino and Guglielmino (2001) argued that employees facing high levels of change have a greater need to engage in self-directed learning.

The sample for this study was knowledge workers drawn from a Fortune 500, multi-national company (Fortune Co.) accessible to the researcher. Fortune Co. was a U.S.-based Fortune 500 company with headquarters in the mid-west. The company was a consumer products company and was over 100 years old. Globally, roughly one third of its employee population worldwide worked in salaried, non-production roles including marketing, sales, finance, research and development, manufacturing and operarations, etc. In the United States, there were approximately 7,000 employees working in professional, highly skilled, non-algorithmic work – that is, they were engaged in knowledge work (Hilton, 2008).

Participants were randomly selected from a list of professional, non-production employees in Fortune Co.'s United States operations. Professional, non-production employees were selected because these employees were more likely to be experiencing the need for self-directed learning given that their jobs should have had higher amounts of non-algorithmic work (Hitlon, 2008). Given occupational variety in the sample a moderate to high level of variability in the dependent variable was expected. Given the small correlations found by Mayhew (2010) in her study, a small to medium effect size was also expected. Using a 95% confidence target, the estimate for the appropriate the sample size for this study was 476 using G*power (Faul, Erdfelder, Buchner, & Lang, 2009). A response rate of 40% was considered to be a conservative yet reasonable estimate for participation and, therefore, the survey was distributed to 1,200 participants.

The list was generated from Fortune Co's human resource database which contained an up-to-date listing of all professional, non-production employees. The database was updated as employees join and leave the company. The database included occupation (production, professional non-production employees) which was used by Fortune Co to confirm the appropriateness of the people on the list. A member of Fortune Co's Human Resource team ran a database query to create a list of all the professional, non-production employess working in the United States. The list contained the unique personnel number of each employee, the employee's name, and email address. Each employee was assigned a number and then 1,200 employees were randomly selected using a random number generator from the list.

According to Gall et al. (2003) studies conducted with convenience samples face certain threats to validity but may be conducted if the sample suits the purposes of the

study and the sample is well described. Gall et al. (2003) explained that the limitations of surveys center on the lack of flexibility and the inability to provide thick information about the respondent's experience. To provide a thicker understanding of the context of the present study, the elements of the Noe et al. (1997) conceptual model will be used to more fully describe the context for development in Fortune Co. As discussed earlier, the model by Noe et al. (1997) provides a conceptual overview of variables related to employee decisions to participate in work-related learning activities. The framework will be used to provide a comprehensive understanding of the context in which the present study was conducted.

Business Strategy and HR Practices

According to Noe et al. (1997), in certain companies business strategy leads companies to place a higher premium on employee development. Often these companies develop a continuous learning culture (Tannebaum, et al., 2010).   Companies with a continuous learning culture have a philosophical orientation to encourage ongoing learning as part of doing business (London & Mone, 1999). According to Tracey et al. (1995), in these companies there is broad agreement and consistency regarding the importance of learning in every part of work.   In companies with a continuous learning culture, business strategy, company values, and HR policies will all be aligned around a development philosophy (London & Mone, 1999; Tannebaum, 1997).

Fortune Co. had a stated business and HR strategies around total quality and continuous learning for all its employees. The company had made employee development part of its espoused values (Schein, 1999). The company Human Resource strategy was predicated on attracting, retaining, and developing the best talent possible.

The company's approach to development had been strongly shaped by the Center for Creative Leadership development formula of learning on-the-job, through relationships, and targeted training (McCauley & Van Velsor, 2004). On-the-job development was a centerpiece of the company's approach to development and the company had a strong promote from within policy. To support on-the-job development Fortune Co.'s HR policies included succession planning processes to develop key talent by deliberate job assignments, job posting processes to allow employees to apply for different job assignments, early career job rotation programs to expose employees to variety of career experiences, special assignments (task forces, special projects, short term assignments), cross-functional rotations, and career paths to inform employees about what type of work experiences were available over the course of their careers. To support learning through others, Fortune Co.'s HR policies used 360 degree feedback, mentoring programs, performance management processes, and coaching. To support development through programs and courses, Fortune Co. had in place a corporate university, new employee training, new manager training, ongoing leadership training, functional training programs, and tuition assistance. The company's human resource, learning, and development practices had been positively reviewed by different trade publications.

Self-Development Philosophy and HR Processes

Self-development was an important principle of Fortune Co.'s development philosophy. Pedler, et al. (1994) provided a definition of self-development consistent with the Fortune Co.'s practice. According the Pedler at al. (1994), "[s]elf development is personal development, with the person taking primary responsibility for her or his own learning, and choosing the means to achieve this" (p. 5). The authors proposed that self-

development includes career development, improving current job performance, developing targeted skills, and achieving personal potential (p. 5). The company's development philosophy stated employees owned their own careers and should engage in ongoing development throughout their careers. Fortune Co. had a long standing, well established individual development planning process. Company policy was that all salaried, non-production employees should have an individual development plan. Employees were expected to write a first draft of the individual development plan, set up the meeting to discuss it with their managers, and to manage the agenda during the meeting. The company had emphasized that the individual development plan should ideally be a partnership between employees and the manager; however, ultimately, the employee was considered to be the final owner of the plan. Employees were not limited to having individual development plan conversations with their manager; different functions of the company encouraged employees to conduct individual development plan discussion with individuals in addition to the manager who could assist with their development. According to Fortune Co.s employee opinion survey a high percentage of targeted employees reported meeting with their manager to discuss an individual development plan.

Climate – The Provision of Resources and Supervisor Support

Noe et al. (1997) also identify climate as a variable to consider in the employee's decision process to engage in development. According to Noe et al. climate is characterized by employee perceptions of the supports or barriers to engaging in development. In particular the authors call out the importance of the supervisor in providing support and the presence of resources to support development. Fortune Co. has

placed emphasis on both the provision of resources and enabling managers to support the development of self-direct learning.

As discussed above, Fortune Co. had a number of resources that were supported at the organizational level to develop employees through on-the-job development, developmental relationships, and targeted training. In addition to the resources discussed above, Fortune Co's also provided a variety of resources that specifically supported employee self-directed learning. The individual development plan process happened at a set time during the year and employees received direct communication from the human resources function telling them to start the individual development plan process. As part of these communications employees were provided with access to a variety of self-directed learning resources. Fortune Co. had developed and broadly communicated career paths and competency models that supported self-assessment for present and future positions. As recommended in the development literature (London & Mone, 1999) competency models were incorporated into performance appraisals and were often reviewed as part of individual development planning discussions as well. During the individual development plan time period, the company broadly communicated a variety of resources such as assessments, resources for learning from experience, resources for creating learning partnerships, voluntary online learning materials, and in person training programs.

The company also placed focused attention on training managers to support development. The development of others was part of the company's leadership model. The company invested in training for new managers and ongoing performance management training for all managers. The company distributed just in time

performance management job aids to support effective performance management

discussions with employees. In particular, the company had spent the previous several

years seeking to develop managerial effectiveness in the areas of task performance,

employee development, and relationship building. The effort had combined a mixture of

company-wide and unit specific HRD initiatives. The initiatives included training, job

aids, social learning, metrics, recognition efforts, and leadership communication.

Individual Characteristics

Noe at al. (1997) also proposed that individual level characteristics are important

variables to consider in the decision to engage in development. Maurer at al. (2008)

suggested that candidates who were motivated to develop would seek out employers who

offered development opportunities. The opportunity for development (ongoing

assessment / feedback, on-the-job development, learning through others, and ongoing

training; Noe et al, 1997) was an important consideration in the company's recruiting and

selection policies. Fortune Co. tried to communicate to applicants that they would have

an opportunity to develop at the company. Ongoing development had traditionally been

considered to be an integral part of the company's value proposition to prospective

employee. The development of self and other was part of the company's leadership

competencies that were used in the selection process.

A Continuous Learning Culture

In summary, Fortune Co. could be described as a company that fitted the

characteristics of continuous learning company. According to London and Mone (1999)

continuous learning organizations have a philosophical orientation to encourage ongoing

learning as part of standard operations and development is viewed as a means to ongoing

performance. Learning and development become part of the company's leadership behaviors and culture (Sessa & London, 2006). Company policies and procedures are oriented to allow employees the opportunity to learn and employees are provided resources to engage in ongoing development (Tannebaum, 1999). As discussed, Fortune Co. had a development oriented business philosophy and HR policies that included a specific emphasis on self-development. The company had invested in both self-development resources and supervisor training both which could serve to signal a climate supportive of development (Tannebaum et al., 2010). Fortune Co. also made self-development an important consideration in its attraction and selection of policies. The discussion above described the sample and highlighted how the company has many of the characteristic of a continuous learning organization. Next, the data collection procedures will be discussed.

Data Collection

The data for this survey were collected using an online survey comprised of different scales to measure (a) knowledge worker perceptions of supervisor transformational leadership behavior, (b) support for development, (c) knowledge worker self-reported readiness for self-directed learning, and (d) self-reported job performance. Using survey instruments is a well established method for research in fields of leadership (Yukl, 2010) and self-directed learning readiness (Owen, 2002). Surveys provide a cost effective and efficient way to study these constructs among participants (Gall, et al., 2003). Online surveys are a well suited method for quantitative studies of populations with access to and experience using the Internet (Dillman, 2000; Gall et al., 2003). Online surveys are especially useful in collecting data from geographically dispersed employees

(Nardi, 2006) and have an added benefit of reducing non-response (Tsikriktsis, 2005). The survey consisted of well researched and valid measures drawn from previous research (Bass & Riggio, 2006; Durr, 1992; Guglielmino, 1978; Maurer, Weiss, & Barbeite, 2003).

The survey was constructed using using a survey tool from the College of Education and Human Development from the University of Minnesota. The survey used an online survey format and delivery with and participants invited to participate via email. The email invitation included instructions, consent form, and participant consent agreement. The email consent information included background information, information on procedures, risks and benefits of taking the survey, description of the voluntary nature of participation, confidentiality and contact information for researcher, advisor, and research subjects advocate line. The survey consisted of a welcome page, the self-directed learning readiness scale, the transformational leadership scale, the supervisor support for development scale, self-reported job performance and five demographic questions. The survey was set up to collect data anonymously to protect confidentiality.

Upon receiving IRB approval, the company's chief learning officer was contacted to obtain the necessary permissions to carry out the survey and to obtain support for distributing the survey. Dillman (2000) recommends using social exchange considerations in implementing the survey to increase participation. This entails making benefits of taking the survey clear and reducing any associated costs (Dillman, 2000). Dillman also suggested having sponsorship from someone respondents will view as a legitimate authority as a way to increase the benefits of participation. For that reason, an

email announcing the upcoming study was sent out from the email box of the company's

corporate university by a director in the Human Resources function. The actual survey

itself was sent by the researcher from a University of Minnesota email address.   The

researcher sent out an email reminder from the same University of Minnesota email

address after two weeks as recommended by Dillman (2000) and in conformity to the

IRB requirements.

Dillman (2000) also recommended highlighting the purpose of the survey and its

contribution to science. The survey also leveraged the prestige and reputation of the

University of Minnesota in the initial email. The survey was administered online to make

it easy to respond to and was laid out to minimize the burden on the respondents. The

level of comfort with computers for salaried, non-production employees at the company

was considered to be high, thus, reducing concerns about coverage error.   The company

periodically conducted online surveys of most of its salaried, non-production employees

across the world. Therefore, it was considered likely that most employees at this level in

the company had a high degree of familiarity and comfort with the web and online

surveys.

Response Rate and Demographic Information

The survey was distributed to 1,200 participants with 385 respondents recorded

(representing a 32% response rate). Five demographic variables were gathered to

describe the sample: gender, age, position, occupation category, and highest education

level attained. The mean age of sample respondents was 42 years old with a standard

deviation of 12 (see Table 1). The frequency and percent responses for the four

remaining demographic questions are listed in Table 1. The sample was 51.4% male,

47.3% female, with 1.3% of respondents not reporting gender. As indicated in Table 1, 59.5% of respondents had attained a college degree, 24.7% had a graduate degree, 5.7% an associates degree, and 8.8% had attained a high school degree. There were five non-respondents to the highest level of education attained question. As shown in Table 1, the majority of the sample (53.5 %) selected individual contributor as their position title. The next largest group in the job position was managers/supervisors (40%), and smallest group was directors (5.2%); there were five non-respondents to the position question.

The majority of sample participants worked in in sales (31.4%) or manufacturing and operations (31.2%) as their occupation. The third most frequently (9.9%) reported work occupation was those working in a technical capacity in either research and development or quality. Corporate functions (finance, shared services, legal) represented a combined total of 13.3% of the sample. Marketing and marketing services organizations combined were 8.6% of the sample. At the company's request, neither senior executives nor human resource personnel were invited to participate in the study. Only one person indicated that they worked in Human Resources, 3.6% of respondents selected other and non respondents made up 2.1% of the sample. The collapsed listing of responses regarding work occupation is presented in Table 1.

Variables and Instrumentation

The four variables examined in the study were self-directed learning readiness, transformational leadership, supervisor support for development, and job performance. The instruments used in this study are listed in Table 2. Each construct was measured using instruments validated in previous research. An overview of each of the instruments as well as validity and reliability findings from both the present and previous studies are

examined below. The reliability findings from the data in the current study for each of the

measures used is provided in Table 2. A confirmatory factor analysis was conducted to

verify that the items from this sample loaded on the factors as hypothesized. In structural

Table 1

Demographic Data: Age, Gender, Position, Occupation, and Education

	Mean	**SD**	**Frequency**	**Percent**
Age	42	12		
Male			198	51.4
Female			182	47.3
Missing			5	1.3
Director			20	5.2
Manager / Supervisor			154	40.0
Individual Contributor			206	53.5
Missing			5	1.3
Total			385	100.0
Corporate			51	13.3
Marketing & marketing services			33	8.6
Research and development / Quality			38	9.9
Sales			121	31.4
Manufacturing & operations			120	31.2
Other			14	3.6
Missing			8	2.1
High school			34	8.8
Associates or technical degree (2 year)			22	5.7
College degree (4 year)			229	59.5
Graduate degree (i.e. Masters, Doctorate)			95	24.7
Missing			5	1.3
Total			385	100.0

equation models, the most frequently reported statistic is the global chi-square and

degrees of freedom (McDonald & Ho, 2002). Kline (2011) recommended always

reporting the chi-square test. However, the chi-square is influenced by sample size and

so other fit tests should also be included (Sharma, Mukherjeee, Kuman, & Dillon, 2005).

The CFI is a broadly used comparative fit statistic (McDonald & Ho, 2002) and was

included in this study. According to Kline (2011), the CFI measures "the relative

improvement in the fit of the researcher's model over that of a baseline model, typically

Table 2

Description of Measures

Construct	Scale / Source of items	# of items	Response options	Coefficient Alpha Present Study
Self-Directed Learning Readiness	SRLRS (Guglielmino, 1977)	58	5 point frequency	.76
Supervisor Support for Development	Maurer, Weiss, & Barbeite, 2003	11	7 point agree	.94
Transformational Leadership (TL)	MLQ 5 X TL aggregate scale (Avolio & Bass, 2004)	20	5 point frequency	.95
Idealized Influence	MLQ 5X – TL subscale (Avolio & Bass, 2004)	8	5 point frequency	.88
Inspirational Motivation	MLQ 5X – TL subscale (Avolio & Bass, 2004)	4	5 point frequency	.87
Intellectual Stimulation	MLQ 5X – TL subscale (Avolio & Bass, 2004)	4	5 point frequency	.82
Individualized Consideration	MLQ 5X – TL subscale (Avolio & Bass, 2004)	4	5 point frequency	.85
Job Performance	Durr, 1992	1	4 point	

the independence model" (p. 208). Sharma et al. (2005) recommend the NNFI (also

known as the TLI) as a fit index that relatively insensitive to sample size. This is

important because a fit index that is overly sensitive to sample size could result in

different findings if a replication study is conducted using different sample sizes (Sharma

et al., 2005). According to Sharma et al. (2005) the RMSEA is not affected by the

size of the factor loading unlike some other test statistics (e.g. the NNFI). In the present

study several of the factor loadings for the self-directed learning readiness scale were

below the .5 level and so the RMSEA was included as a fit statistic. According to

McDonald & Ho (2002), CFI and NNFI values above .9 are considered acceptable. An

RMSEA value less than .08 is considered acceptable and a value less than .05 is

considered good (McDonal & Ho. 2002). As shown in Table 3, the results of the factor

analysis had an acceptable fit (McDonald & Ho, 2002) and supported the hypothesized

factor structure $(\chi^2[3824] = 8086.93$, CFI = .94, NNFI = .94, RMSEA=.06). A separate

confirmatory factor analysis was conducted to examine how the items loaded on the

transformational leadership sub-scales. The model did not initially have an acceptable fit.

To improve the fit modification indexes were inspected and error variances for certain

items were allowed to correlate. After the modifications an acceptable fit was attained

$\chi^2[158] = 530.84$, CFI = .98, NNFI = .98, RMSEA=.08). The factor loadings for the two

confirmatory factor analyses are reproduced in Appendix F.

Table 3

Summary of CFA Fit Indices

	χ^2	df	p	CFI	NNFI	RMSEA
Three factor CFA[1]	8086	3824	p < .01	.94	.94	.06
Four factor CFA[2]	530	158	p < .01	.98	.98	.08

Note: [1] = Three factor CFA of self-directed learning readiness, aggregate transformational leadership, & supervisor support for development. [2] = Four factor CFA of idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration sub-scales.

Self-Directed Learning Readiness

In this study self-directed learning was measured using the self-directed learning readiness scale (SDLRS; Guglielmino, 1978). The SDLRS measures to "the degree to which individuals perceive themselves to possess skills and attitudes frequently associated with self-directed learning" (Durr, 1992, p. 64). The SLDRS is one of the most widely used operationalizations of self-directed learning readiness (Park & Kwon, 2004). Self-directed learning readiness has been linked to involvement in self-directed learning activity and to successful performance in work environments characterized by high levels of change (Guglielmino, 1997; 2008; Oliveira et al., 2008). There have always been a multiplicity of tools seeking to measure self-directed learning. Oddi (1986) developed an alternative instrument to measure the personality construct and more recently Bartlett and Kotrlik (1999) sought to create an instrument specifically for the workplace. However, as Park and Kwon (2004) indicated the instruments "still have not been extensively tested for validity and reliability apart from studies conducted by the researchers who proposed them" (p. 336). A sample item from the SDLRS is "In a learning experience, I prefer to take part in deciding what will be learned and how." The responses range from "almost always true of me" to almost "never true of me" over a five point scale. Guglielmino and Guglielmino (2006) reported that most studies using this scale in populations over 20 years of age report reliabilities between .72 - .92. The reliability for the data from this scale in the present study was .76.

Transformational Leadership

The primary independent variable of interest for this study was transformational leadership. The Multifactor Leadershp Questionnaire (MLQ) is the dominant instrument

to measure the full range of leadership model and transformational leadership (Bass & Avolio, 1994). The independent variable data was gathered via the MLQ 5X – short form. The MLQ is the most widely used instrument to measure transformational leadership and has been subject to numerous studies confirming validity and reliability (Avolio & Bass, 2004). Bass & Riggio (2006) report that reliabilities from the data in previous studies have been above .80. The scale has been validated by several meta-analyses (DeGroot et al., 2000; Judge & Piccolo, 2004; Lowe et al., 1996). A sample item is "The person I am rating spends time teaching and coaching." The responses ranges from "Not al all" to almost "frequently, if not always" over a five-point scale. The reliability for the data in this study for the aggregate transformational leadership scale was .95.

Supervisor Support for Development

The second independent variable, supervisor support for development, was measured using a seven item scale developed by Maurer and Lippstreau (2006). The scale used in the present study was taken from Maurer, et al. (2003). In 1994, Maurer and Tarulli (1994), derived a supervisor support for development from a 1993 study by Noe and Wilk which found a relationship between social support (encompassing both supervisor and peer support) and employee participation in developmental activities. Different versions of the Maurer and Tarulli (1994) scale have been use to examine the relationship between supervisor support for development and participation in various forms of development (Maurer, et al. 2008). Maurer et al. (2002) found a relationship between supervisor support and participation in development activities in response to participation in a 360 degree feedback system. Maurer, et al. (2003) reported finding a

reliability of .90 for the data in their study. A sample item from the scale was "my

supervisor encourages me to participate in activities which promote skill improvement."

The data for this scale in the present study had a reliability of .94.

Self-Reported Job Performance

According to Landy and Conte (2004), performance measures can be objective,

judgmental, or personnel records (p. 172). The authors define judgmental measures as

"evaluations made of the effectiveness of an individual's work behavior. The judgments

are most often made by supervisors in the context of a yearly performance evaluation" (p.

172). A relationship between judgmental job performance and self-directed learning

readiness has been reported in previous studies by Gugleilmino and colleagues (Durr, et

al., 1994; Guglielmino & Guglielmino, 2008; Guglielmino, et al., 1987; Roberts, 1986).

Self-directed learning readiness has been associated with superior job performance in

complex jobs that face high levels of change (Guglielmino & Guglielmino, 2008).   A

single self-report item from Durr (1992) was used to measure judgmental performance.

The item was adapted to reflect the performance measures used in the company in the

sample. Job performance was measured using a single item consistent with Durr (1992)

and Roberts (1986). The item used was "Please select your last performance rating".

The response options were "Outstanding, Above Target, On Target, Below Target, Don't

Know".

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Data Analysis

</div>

To ensure data anonymity the data was de-identifed and kept on a secure

computer. The data was scaled following to the instructions of the test authors (Bass &

Avolio, 2004; Guglielmino & Guglielmino, 2001; Maurer, personal communication,

2012). Histograms were used to examine the aggregated transformational leadership

scale, each of the individual transformational leadership behavior scales, and the

aggregate self-directed learning SDLRS. The 58 items of the self-directed learning

readiness scale were combined into a single factor according to the instructions from the

test authors (Guglielmino & Guglielmino, 2001). The items for supervisor support for

development were scored as indicated by Maurer (personal communication, 2012). The

20 items of the transformational leadership scale and for each of the transformational

leadership subscales were combined following the test authors (Avoilo & Bass, 2004).

Coefficient alpha's were calculated for the responses to each scale to determine

reliability. Aggregate descriptive statistics and correlations were calculated for the

aggregate transformational leadership scale, each leadership subscale, supervisor support

for development, self-directed learning readiness scale, and self-reported job

performance. Where available the descriptive statistics were compared to percentile

rankings provide by the test publishers.

   The data analytic techniques used in this correlational survey research study were

the Pearson correlation, multiple regression, and structural equations modeling. Pearson

correlations were used to test the direct relationships between variables in the study. The

first research question and its four sub-parts were each tested using the Pearson

correlation to examine the direct relationship between transformational leadership (in

aggregate and for each sub-scale) with self-directed learning readiness. A Pearson

correlation was also used to test the second research question regarding the direct

relationship between supervisor support and self-directed learning readiness. The third

research question was similarly answered using a Pearson correlation to test the direct

relationship between transformational leadership and supervisor support for development. A Pearson correlation was used to test the sixth research question regarding the direct relationship between self-directed learning readiness and self-reported job performance.

The fourth and fifth research questions were tested using multiple regression. The fifth research question was tested by a simultaneous multiple regression of supervisor support for development and aggregate transformational leadership on self-directed learning readiness. The sixth research question was also tested by a simultaneous multiple regression of the four transformational leadership behaviors (idealized influence, inspirational motivation intellectual stimulation, and individualized consideration) on self-directed learning readiness.

A seventh research question was added post hoc to test how well the variables in the present study fit a model of relationships (see Figure 2) derived from the conceptual framework proposed for this research (see Figure 1). The seventh research question was answered using structural equation modeling to test whether the data in this study fit the relationships between variables hypothesized by the study's conceptual model. Structural equation modeling was chosen because it provided a method to evaluate whether the data from this sample was consistent with the study's conceptual model (model fit) and it provided parameter estimates of all hypothesized relationships simultaneously (Kline, 2011; Nifadkar, Tsui, & Ashforth, 2012). Overall fit statistics for the model were tested as were the significance of the parameter estimates in the model. Given the lack of significance of some of the parameter estimates, the conceptual model was trimmed down and a more parsimonious model was tested. In addition, an additional path was added to the model based on the literature and thus a third model was also tested.

Chapter Summary

This study's purpose was to examine if a relationship exists between the transformational leadership behavior of a knowledge worker's direct supervisor and knowledge worker self-directed learning readiness. The study also examined whether a relationship exists between the direct supervisor's support for development and the knowledge worker self-directed learning readiness. Finally, whether a relationship exists between self-directed learning and self-reported job performance was also examined. This chapter reviewed the method used to conduct this study. The research design, sample and populations, data collection, instrumentation, and data analysis were all discussed. The results for this study are presented in the following chapter.

CHAPTER FOUR

RESULTS

This chapter presents the findings in this study's examination of the relationship between the direct supervisor's transformational leadership and support for development behaviors and the subordinate's self-directed learning readiness. The descriptive statistics (mean, standard deviations, and correlations) of the variables in the study are presented. The chapter proceeds with the data analysis conducted to answer each of the study's research questions. The chapter concludes with a summary of the chapter's findings.

The highest non-response rate was 3.6% for item number 60 (My direct supervisor re-examines critical assumptions to question whether they are appropriate). According to Tsikriktsis (2005), the appropriate approach for handling missing data should be determined based on the amount of data missing, on the pattern of the missing responses, statistical accuracy, difficulty for the researcher, and impact on statistical power. If the amount of data missing is less than 5% then the approach to handling missing data is less significant (Kline, 2011; Tsikriktsis, 2005). Guglielmino and Guglielmino (2001) recommended missing data in the SDLRS should be handled via substituting a score of three for missing values; however, Allison (2002) suggested mean substitution should be avoided.

In this study missing data for self-directed learning readiness, transformational leadership, and supervisor support for development was addressed using the expectation maximization available in SPSS. According to McDonald and Ho (2002), imputation is increasingly being used as an approach to handle missing data. Missing values were

imputed for self-directed learning readiness, transformational leadership, and supervisor support for development. According Kline (2011) in the first step "missing observations are imputed by predicted scores in a series of regressions in which each incomplete variable is regressed on the remaining variables for a particular case. In the M (maximization) step, the whole imputed data set is submitted for ML estimation. The two steps are repeated until a stable solution is reached across the M steps" (p. 59). Missing data was handled using the expectation-maximization algorithm in SPSS. Expectation maximization was used because it does not result in loss of power, it takes advantage of information in the data, and does not assume data loss that is missing completely at random (Kline, 2011). Self-reported job performance was reported using a single item; there were eight cases with missing data and nine cases responding "Don't know" The missing data and the "don't know" cases (N = 17) were handled by excluding them from subsequent correlations (research question 6) and the structural equation model (research question 7). As can be seen in Table 4, the final N for self-reported job performance was 368.

Descriptive Statistics

This section will review the study's descriptive statistics. The testing of assumptions and scale descriptive statistics will be discussed.

Testing Assumptions

In order to confirm the normality of the distribution of results for the variables in the study (aggregated transformational leadership scale, each of the individual transformational leadership behavior scales, and the aggregate self-directed learning SDLRS) the distribution was examined visually and the kurtosis and skewness was also

calculated. Histograms distributions of self-directed learning readiness, supervisor

support for development, transformational leadership, and job performance are presented

in Figures 5-8 in Appendix E. Normality was confirmed by examining kirtosis and skew

(see Table 4) for each independent variable. Skew for each of the seven variables in the

study was below or near 1.0. Coefficient alphas for self-directed learning readiness,

supervisor support for development, transformational leadership, and the four

transformational leadership subscales were calculated. The reliabilities for the data

gathered for each of the seven scales used in the present study are reproduced in Table 4.

Box plots for each variable were examined for the presence of extreme outliers (> 3

standard deviations)(Kline, 2011) and no extreme outliers were found. Bivariate scatter

plots were used to confirm a linear relationship between the independent variables and

the dependent variable.

Scale Descriptive Statistics

The minimum, maximum, means, standard deviations and number of items for

each scales used in the study are reported in Table 4. The mean SDLRS score for this

sample was 236 which is an above average score and between the 76th and 79th percentile

(Guglielmino & Guglielmino, 2001). The mean aggregate transformational leadership

MLQ score for the sample was 2.80. Avolio and Bass (2004) provided percentile scores

for individual scores based on lower level ratings in the United States. The mean score

for individualized consideration (M = 2.72) placed this sample in between the 30-40

percentile of individual scores from lower level ratings in the U.S. The intellectual

stimulation sample mean (M = 2.68) fell between the 30th-40th percentile. The

inspirational motivation sample mean (M = 2.68) fell between the 20th and 30th

percentile. The idealized influence (attributed) and idealized influence (behavior) subscales are combined in Table 4 into a single idealized influence scale (M = 2.82). Avolio and Bass (2004) provided percentile scores for each idealized influence subscale. The sample idealized influence (attributed) mean was 2.93 which placed the mean between the 40th -50th percentiles. The sample idealized influence (behavior) mean was 2.71 which placed the mean between the 40th -50th percentiles.

Self-reported job performance was measured by a single item. The question asked respondents select their most recent appraisal rating from five response options (outstanding, above target, on target, below target, and don't know). Nine respondents (2.3%) indicated they did not know their most recent performance appraisal rating and eight respondents did not respond to the question (2.1%). These responses were dropped from the analysis for research questions six and seven. Of the remaining 368 responses, three respondents indicated they were "below target" and these responses were combined with the 64 "on target" responses. The on/below target option was recoded as one, the above target option was coded as two, and the outstanding option was recoded as three. The three response options (Outstanding, Above Target, and On/Below Target) were visibly inspected (see Figure E4 in Appendix E) and checked for skew (see Table 4) to confirm normality. The sample mean score for self-reported job performance was 2.04 and the standard deviation was .63.

Variable Correlations

The means, standard deviations, and inter correlations among variable are presented in Table 5. Most correlations were significant at either the .05 or .01 levels and

Table 4

Variables Means, Standards Deviations, Reliabilities, and Skew

	n	Mean	SD	Per-centile	Min	Max	α	Skew
Self-directed learning readiness	385	236	20	76-79	147	283	.76	-0.33
Supervisor support for development	385	5.31	1.00	n/a	1.09	7	.94	-0.75
Transformational leadership (aggregate)	385	2.80	0.79	n/a	0.05	4	.95	-0.94
Idealized influence	385	2.82	0.81	40-50	0	4	.88	-0.95
Inspirational motivation	385	2.97	0.87	20-30	0	4	.87	-0.97
Intellectual stimulation	385	2.68	0.84	30-40	0.25	4	.82	-0.66
Idealized consideration	385	2.72	0.97	30-40	0	4	.85	-0.84
Job performance	368	2.04	0.63	n/a	1.00	3		-0.28

ranged from weak (.10) to strong (.90). As will be discussed in the next section, the

SDLRS correlations were weak ranging from .10 to .12. In particular, the correlation

between individualized consideration and self-directed learning readiness was only

marginally significant ($r = .10$, $p = .054$). Consistent with previous research (Avolio &

Bass, 2004), the strongest correlations in this study were among the sub-scales of the

transformational leadership. As will be discussed in the next section, the

transformational leadership aggregate scale was also strongly related with supervisor

support for development ($r = .80$, $p = .00$). Supervisor support for development had the

highest correlation with the individualized consideration subscale ($r = .80$, $p = .00$) and

with idealized influence subscale ($r = .76$, $p = .00$). Supervisor support also strongly

correlated with intellectual stimulation ($r = .68$, $p = .00$ and inspirational motivation ($r =$

.65, $p =. 00$). Self-reported job performance had small (ranging from .19 to .26) but

significant correlations to all the other variables in the study. Self-reported job

Table 5

Correlation Matrix for All Variables

	n	MEAN	SD	1	2	3	4	5	6	7	8
1. Self-Directed Learning Readiness	385	236	20								
2. Supervisor Support for Development	385	5.31	1.00	.11[*]							
3. Aggregate Transformational Leadership	385	2.80	0.79	.12[*]	.80[**]						
4. Idealized Influence	385	2.82	0.81	.11[*]	.76[**]	.96[**]					
5. Inspirational Motivation	385	2.97	0.87	.10[*]	.65[**]	.88[**]	.84[**]				
6. Intellectual Stimulation	385	2.68	0.84	.12[*]	.68[**]	.87[**]	.77[**]	.67[**]			
7. Individualized Consideration	385	2.72	0.97	.10	.80[**]	.90[**]	.82[**]	.68[**]	.78[**]		
8. Job Performance	368	2.04	0.63	.19[**]	.22[*]	.25[**]	.22[**]	.21[**]	.20[**]	.26[**]	

Note: * = Correlation is significant at the 0.05 level (2-tailed). ** = Correlation is significant at the 0.01 level (2-tailed).

performance was most highly correlated to the individualized consideration sub-scale ($r =$ .26, $p = .00$) and had the smallest correlation with self-directed learning readiness ($r =$ .19, $p = .00$).

Research Questions

The primary purpose of this study was to determine whether a relationship exists between the perceived transformational leadership behaviors of a knowledge worker's direct supervisor (the independent variable) and knowledge worker's self-directed learning readiness (the dependent variable). Secondarily, the study also examined whether a relationship exists between the same direct supervisor's supervisor support for development (the independent variable) and the knowledge worker's self-directed learning readiness (the dependent variable). Finally, the study examined the relationship between a knowledge worker self-directed learning readiness
 (the independent variable) and the knowledge worker's self-reported job performance (the dependent variable). The research questions for this study of knowledge workers were:

1. Is there a relationship between subordinate perceptions of supervisor transformational leadership behavior and subordinate self-reported readiness for self-directed learning?

   a. Is there a relationship between subordinate perceptions of supervisor idealized influence leadership behavior and subordinate self-reported readiness for self-directed learning?

      b. Is there a relationship between subordinate perceptions of supervisor inspirational motivation leadership behavior and subordinate self-reported readiness for self-directed learning?

      c. Is there a relationship between subordinate perceptions of supervisor intellectual stimulation leadership behavior and subordinate self-reported readiness for self-directed learning?

      d. Is there a relationship between subordinate perceptions of supervisor individualized consideration behavior and subordinate self-reported readiness for self-directed learning?

2. Is there a relationship between subordinate perceptions of supervisor support for development and subordinate self-reported readiness for self-directed learning?

3. Is there a relationship between subordinate perceptions of supervisor transformational leadership behavior and subordinate perceptions of supervisor support for development?

4. Is there a difference between the relationship of supervisor support for development and supervisor transformational leadership behavior on subordinate self-reported readiness for self-directed learning?

5. Is there a difference between the relationship of supervisor idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration leadership behavior on subordinate self-reported readiness for self-directed learning?

6. Is there a relationship between self-reported readiness for self-directed learning and self-reported job performance level?

7. How well do the data in the present sample fit the conceptual model proposed in this study?

Research Questions One and Two

The first research question was answered by conducting a test of the Pearson correlation of the relationship between subordinate perceptions of supervisor aggregate transformational leadership (M = 2.80, SD = 0.79) and subordinate self-reported self-directed learning readiness (M = 236, SD = 20). The two tailed test was statistically significant (r = 0.12, p = .02) confirming a weak, positive relationship between these two variables. Subpart a of the first research question was also tested using a test of the Pearson correlation of the relationship between employee perceptions of supervisor idealized influence leadership behavior (M = 2.82, SD = 0.81) and self-reported readiness for self-directed learning readiness (M = 236, SD = 20). The test showed a weak, statistically significant relationship (r = 0.11, p = .03). To answer subpart b of the first research question, the Person correlation test was also applied to the relationship between supervisor inspirational motivation leadership behavior (M = 2.67, SD = 0.87) and self-reported readiness for self-directed learning (M = 236, SD = 20). The two tailed test confirmed a weak, statistically significant relationship between the two variables (r = 0.10, p = .04). Subpart c of the first research question was similarly answered using a Pearson correlation test of the relationship between subordinate perceptions of supervisor intellectual stimulation leadership behavior (M = 2.67, SD = 0.87) and self-reported readiness for self-directed learning (M = 236, SD = 20). The test was significant (p = .02) and revealed a weak relationship (r = .12). In the final subpart d of research question 1, the Pearson correlation test found a marginally significant correlation (r = .09, p =

.054) between subordinate perceptions of supervisor individualized consideration (M = 2.72, SD = 0.97) and self-reported readiness for self-directed learning (M = 236, SD = 20). The means and correlations reported above can be found in Table 5.

The second research question was answered using a Pearson correlation to test the relationship between subordinate perceptions of supervisor support for development (M = 5.31, SD = 1.03) and self-reported readiness for self-directed learning (M = 236, SD = 20). As reported in Table 5, the test revealed a weak but statistically significant (r = 0.11, p = .03) relationship between the variables.

Research Questions Three, Four, and Five*:*

The third research question was also answered using the same Pearson correlation test reported in Table 5. For the third research question, a strong, statistically significant relationship (r = .80, p = .00) was found between subordinate perceptions of supervisor aggregate transformational leadership (M = 2.80, SD = 0.79) and self-reported readiness for self-directed learning (M = 236, SD = 20). The fourth research question was tested by a simultaneous multiple regression of supervisor support for development and aggregate transformational leadership on self-directed learning readiness. As can be seen in Table 6, the two highly correlated variables did not account for unique variance in the dependent variable due to multicollinearity and the result of the multiple regression test ($F_{2,382}$ = 2.846, p = .059) was not significant. Due to multicollinearity, the results for this sample did not find unique effects on subordinate self-directed learning readiness of aggregate transformational leadership (β = .085, p = .32) or supervisor support for development (β = .042, p = .62) when controlling for each other. The fifth research question was tested by a simultaneous multiple regression of the four transformational

leadership behaviors on self-directed learning readiness. As can be seen in Table 6, the result of the test was not significant ($F_{4,380} = 1.555$, p = .19). Due to multicollinearity, the results did not find unique effects for the four transformational leadership behaviors on self-directed learning readiness when controlling for each other.

Table 6

Multiple Regression Analysis for Aggregate Transformational Leadership, Supervisor Support for Development, and Transformational Leadership Sub-Scales

Variables	Model 1 β	Model 2 β	Model 3 β	Model 4 β
Aggregate transformational leadership	.12		.09	
Supervisor support for development		.11	.04	
Idealized influence				.02
Inspirational motivation				.03
Intellectual stimulation				.10
Individualized consideration				-.02
R	.12	.11	.12	.13
Adjusted R^2	.01	.01	.01	.01
Significance	p = .02	p = .03	p = .06	p = .19

Model 1 = Aggregate transformational leadership alone; Model 2 = Supervisor support for development alone; Model 3 = Transformational leadership and supervisor support for development; Model 4 transformational leadership behaviors singly

Research Questions Six and Seven

The sixth research question was answered using a Pearson correlation test and is reported in Table 5. For the sixth research question a small, statistically significant relationship (r = .19, p = .00) was found between self-reported readiness for self-directed learning (M = 236, SD = 20) and self-reported job performance (M = 2.04, SD = .63). The post hoc seventh research question was answered using structural equation modeling to test the hypothesis that the data in this study fit the relationships described in a model

derived from the study's conceptual framework. The study's conceptual framework is

represented in Figure 1 and the post-hoc model derived from the conceptual framework is

represented in Figure 2. The post-hoc conceptual model involved the testing of two

correlated exogenous (i.e. independent) variables (transformational leadership and

supervisor support for development) on self-directed learning readiness as an endogenous

(i.e. dependent) variable and, subsequently, self-directed learning readiness served as an

independent variable on self-reported job performance. The model was tested by loading

the corrrelations from Table 5 into Lisrel 8.8. The model fit indices are provided in Table

7. As can be seen in Figure 2, only the parameter estimates from self-directed learning to

self-reported job performance ($\beta = .18$; p< .01) and the correlation between

transformational leadership and supervisor support for development ($\beta = .87$, p< .01)

were significant. Consistent with the multiple regression for research question five, the

two paths from transformational leadership ($\beta = .05$, p > .05 .) and supervisor support ($\beta = .08$, p > .05) were not significant.

Given the high multicollinearity between the two supervisory leadership scores

and the results from the stepwise regression conducted earlier, the supervisor support for

development variable was dropped from the model and the more parsimonious model

was tested. Supervisor support for development was dropped from the model because it

explained little of the variance and was less relevant to the primary purpose of the present

study. In the more parsimonious indirect performance impact model, transformational
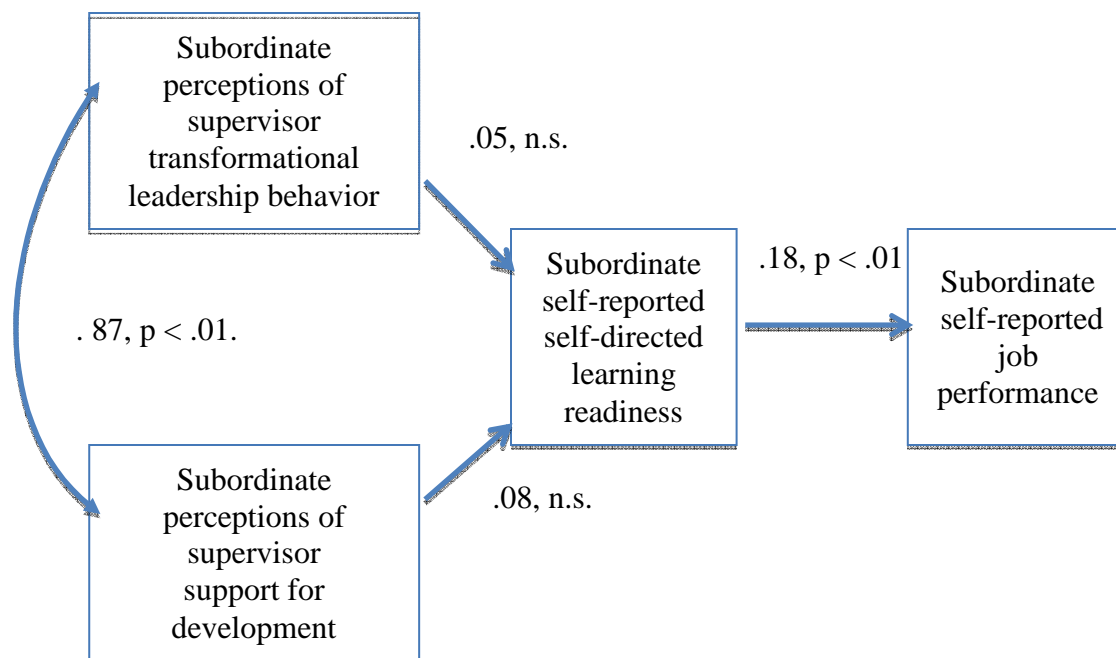
Figure 2. Post-Hoc Model Derived from Conceptual Framework

leadership was treated as the exogenous variable that impacted self-reported job

performance indirectly through self-directed learning readiness (see Figure 3). The

model fit indices are provided in Table 7. As can be seen, despite dropping the supervisor

support for development variable, the indirect performance impact fit statistics were

largely unchanged compared to the study model and still acceptable. As can be seen in

Figure 3, in the indirect performance impact model the parameter estimate from

Table 7

Structural Models Fit Statistics

	χ^2	df	p	CFI	NNFI	RMSEA
Study model	9680	3192		.94	.94	.06
Indirect performance impact model	8121	3001	p < .01	.92	.91	.07
Direct and indirect performance impact model	8100	3000	p < .01	.92	.91	.07

transformational leadership to self-directed learning readiness is significant (β = .12, p <

.05) and the parameter estimate from self-directed readiness to self-reported job

performance (β = .18, p < .01) is as well.
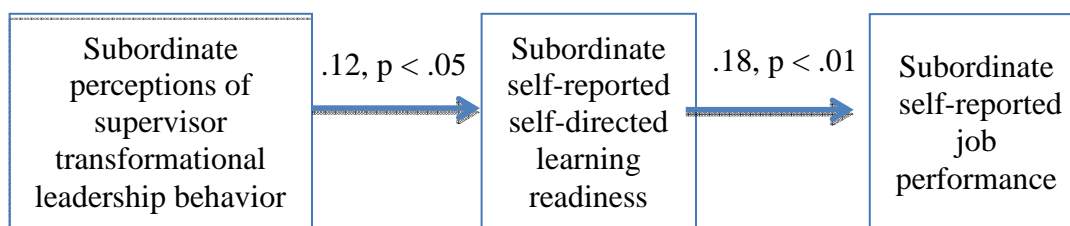
Figure 3. Indirect Performance Impact Model

The fundamental premise of transformational leadership theory is that followers

will produce results beyond expectations (Bass, 1985). The empirical link between

transformational leadership and job performance has been well established in the

literature (Judge & Piccolo, 2004). Transformational leaders are theorized to impact job

performance through multiple other mechanisms beyond just follower self-development

(Bass, 1985; Shamir, et al., 1993; Sosik, 2006). Therefore, there was theoretical and

empirical support to expect a direct effect from transformational leadership to self-

reported job performance. For that reason, a direct and indirect performance impact

model was specified. In this model direct supervisor transformational leadership

behaviors served as an exogenous variable affecting self-reported job performance both

directly and indirectly through self-directed learning readiness. A chi square test of the

difference between the new model and the indirect performance impact model resulted in

a significantly better fit for the direct and indirect performance impact model and thus it

was retained. The model fit indices are provided in Table 6 and, as can be seen, the

direct and indirect performance impact model had a comparable fit to the more

parsimonious model. As can be seen in Figure 4, in the retained model the parameter

estimate from transformational leadership to self-directed learning readiness is significant

(β = 0.12, p < .05), transformational leadership to self-reported job performance is also

significant (β = 0.24 , p < .01), and the parameter estimate from self-directed readiness

to self-reported job performance (β = 0.15, p < .01).

## Summary of Findings

As summarized in table 8, for research questions 1, 1a, 1b, and 1c there was

support for a weak relationship between the transformational leadership behaviors, in

aggregate and singly, and self-directed learning readiness. There was marginal support

for the relationship examined in research question 1d between individualized

consideration and self-directed learning readiness. Similarly, for research question 2,

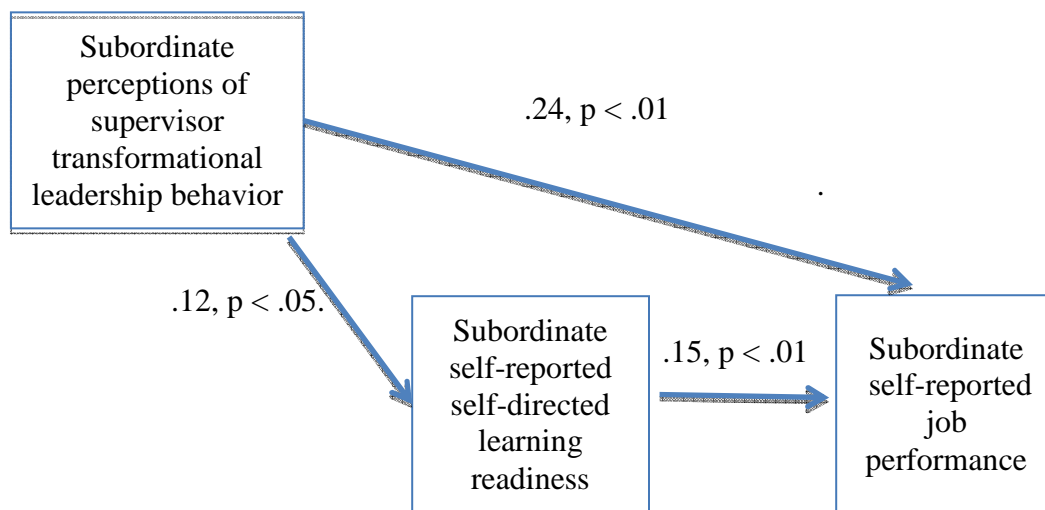*Figure 4.* Final Model – Direct and Indirect Performance Impact Model

there was support for a weak relationship between supervisor support for development

and self-directed learning readiness. There was support for a strong relationship between

supervisor support for development and transformational leadership. Research question

4 did not receive support due to the high multicollinearity between transformational

leadership and supervisor support for development. Research question 5 was similarly

not supported due to the multicollinearity between the transformational leadership sub-

scales. There was support for the relationship between self-directed learning readiness

and self-reported job performance examined in research question 6. Finally, the ad hoc

Table 8

Summary of Research Questions

1. Is there a relationship between subordinate perceptions of supervisor transformational leadership behavior and subordinate self-reported readiness for self-directed learning?	Supported
a. Is there a relationship between subordinate perceptions of supervisor idealized influence leadership behavior and subordinate self-reported readiness for self-directed learning?	Supported
b. Is there a relationship between subordinate perceptions of supervisor inspirational motivation leadership behavior and subordinate self-reported readiness for self-directed learning?	Supported
c. Is there a relationship between subordinate perceptions of supervisor intellectual stimulation leadership behavior and subordinate self-reported readiness for self-directed learning?	Supported
d. Is there a relationship between subordinate perceptions of supervisor individualized consideration behavior and subordinate self-reported readiness for self-directed learning?	Marginally supported[1]
2. Is there a relationship between subordinate perceptions of supervisor transformational leadership behavior and subordinate perceptions of supervisor support for development?	Supported
3. Is there a relationship between subordinate perceptions of supervisor support for development and subordinate self-reported readiness for self-directed learning?	Supported
4. Is there a difference between the relationship of supervisor support for development and supervisor transformational leadership behavior on subordinate self-reported readiness for self-directed learning?	Not supported
5. Is there a difference between the relationship of supervisor idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration leadership behavior on subordinate self-reported readiness for self-directed learning?	Not supported
6. Is there a relationship between self-reported readiness for self-directed learning and self-reported job performance level?	Supported
7. How well do the data in the present sample fit the conceptual model proposed in this study?	Not supported

[1] $p = .054$

conceptual model derived from the conceptual framework for the study did not receive support due to the multicollinearity between transformational leadership and supervisor support for development. Support was found for a model with both direct and indirect transformational leadership effects on performance.

Chapter Summary

This chapter summarized the findings from this study. First the chapter reviewed descriptive statistics of the sample demographics. Next descriptive statistics of the study's variable were presented. The chapter presented the analysis used to answer each of the study's research questions. A summary of the study's findings for each research question was then provided. In the next chapter the study's findings will be discussed.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

This chapter begins with a summary of the present study and continues with a discussion of the major findings. The discussion of the major findings will first address the results for research questions one and two. The discussion of research questions one and two will both highlight how the findings are consistent with previous research and also examine possible explanations from the literature for the weak relationships. Next the results for questions three, four, and five will be discussed with an examination of the multicollinearity between the direct supervisor variables in this study. Finally, the results for research questions six and seven will be discussed in light of their consistency and contribution to three separate strands of research (employee development, transformational leadership, and self-directed learning). The chapter will then proceed with a discussion of the study's limitations and concomitant recommendations for future research. Practical implications of the present study will be the final topic discussed and the chapter will end with a conclusion section.

Summary

There is a strong consensus across a variety of disciplines that continuous learning is needed to ensure employee and organization effectiveness (Guglielmino & Guglielmino, 2008; Hall & Marvis, 1995; London & Mone, 1999). The implication is that employees need to engage in learning that is informal, on-the-job, not-required, future oriented, and ongoing (Birdi et al, 1997; Noe et al., 1997; Tannebaum, et al., 2010). Thus, in the age of continuous learning, the need for self-directed learning by knowledge workers and readiness to engage in self-directed learning continues to

increase (Guglielmino & Long, 2011; London & Mone, 1999). Learners are ready for

self-directed learning when they are willing and able to take responsibility the planning

decisions regarding their own learning (Pratt, 1988; Tough, 1979). The theory of planned

behavior proposes that readiness will be determined by attitudes, social norms, and self-

efficacy (Fishbein & Azjen, 2010). The working environment has been identified as an

antecedent to the intention to participate in different forms of development (Maurer et al,

2008; Tannenbaum, 1997). In particular the direct supervisor has been identified as an

element in the working environment that should impact motivation and the decision

process to engage in development activity (Noe et al, 1997). Supervisor support for

development has been found to be singly related to voluntary development (Maurer &

Tarulli, 1994) and transformational leadership has been proposed to relate to follower

self-development (Avolio, 1999; Sosik, 2006). However, the understanding of the

whether the direct supervisor is a situational variable related to readiness for self-directed

learning in workplace is incomplete (Mayhew, 2010). Consequently, the problem

addressed by this research is the lack of knowledge on a possible relationship between

supervisor transformational leadership behaviors and supervisor support for development

and subordinate workplace self-directed learning readiness.

The purpose of this study was to determine whether a relationship exists between

the perceived transformational leadership behaviors of a direct supervisor and knowledge

workers self-directed learning readiness. The study also examined the relationship of

supervisor support for development and the relationship between self-directed learning

readiness and self-reported job performance. Supervisor support for development has

been theoretically and empirically identified as a factor in the social environment that is

related to both motivation to develop and actual involvement in a variety of different learning experiences (Maurer, 2002). Transformational leadership has been theorized to contribute to follower self-development (Avolio, 1999; Avolio & Gibbons, 1988; Kark & Shamir, 2008; Lippstreu, 2010). However, transformational leadership has not been empirically related to self-directed learning readiness (Mayhew, 2010).

The present study was conducted among knowledge workers. The following research questions were examined:

1. Is there a relationship between subordinate perceptions of supervisor transformational leadership behavior and subordinate self-reported readiness for self-directed learning?

   a. Is there a relationship between subordinate perceptions of supervisor idealized influence leadership behavior and subordinate self-reported readiness for self-directed learning?

   b. Is there a relationship between subordinate perceptions of supervisor inspirational motivation leadership behavior and subordinate self-reported readiness for self-directed learning?

   c. Is there a relationship between subordinate perceptions of supervisor intellectual stimulation leadership behavior and subordinate self-reported readiness for self-directed learning?

   d. Is there a relationship between subordinate perceptions of supervisor individualized consideration behavior and subordinate self-reported readiness for self-directed learning?

2. Is there a relationship between subordinate perceptions of supervisor support for development and subordinate self-reported readiness for self-directed learning?

3. Is there a relationship between subordinate perceptions of supervisor transformational leadership behavior and subordinate perceptions of supervisor support for development?

4. Is there a difference between the relationship of supervisor support for development and supervisor transformational leadership behavior on subordinate self-reported readiness for self-directed learning?

5. Is there a difference between the relationship of supervisor idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration leadership behavior on subordinate self-reported readiness for self-directed learning?

6. Is there a relationship between self-reported readiness for self-directed learning and self-reported job performance level?

7. How well do the data in the present sample fit the conceptual model proposed in this study?

This was a correlational, survey research study using well validated instruments. This cross-sectional study was conducted at Fortune 500 company that was convenient to the researcher. As discussed in Chapter Three, the company fit many of the characteristic theoretically associated with a company with a continuous learning culture (Tannebaum, 1999; Tracey, et al., 1995). An online survey was distributed to 1,200 employees and 32% (N = 384) responded. Data were analyzed using Pearson moment correlation, multiple regression, and structural equation modeling.

Discussion of Major Findings

In this section, the study's major findings will be discussed in the context of the literature. The findings for research questions one and two will be discussed first and possible explanations for the weak relationships found will be provided. The section will then proceed to a discussion of research questions 3-5 and the high multicollinearity between the transformational leadership behaviors and supervisor support for development variables. The section will end with a discussion of findings from research questions 6 and 7 regarding the relationship between self-directed learning readiness and self-reported job performance. After a summary of the discussion, the next section of this chapter will review limitations and future research directions followed by a section on practical implications.

Discussion of Research Questions One and Two Findings

The discussion in this section will be organized as follows. The section will begin with a discussion of how the results for research questions 1 and 2 are consistent with previous literature. Next, the section will discuss literature that provides possible explanations for low variance in the dependent variable accounted for in research questions 1 and 2. The discussion of different explanations for the findings for questions 1 and 2 will be organized using the conceptual model from Noe et al. (1997) introduced in earlier chapters.

Self-directed learning readiness and supervisor behaviors.

Research questions 1 and 2 addressed the independent relationships between supervisor behaviors and self-directed learning readiness. Aggregate transformational leadership was positively related to self-directed learning readiness in this sample ($r =$

0.12, p = .02). Transformational leadership has been theoretically linked to the self-development of followers in the past (Avolio, 1999; Avolio & Gibbons; 1988; Bass, 1985). Consistent with this theorizing, significant relationships were found for idealized influence (r = .11, p = .03), inspirational motivation (r = .10, p = .04), and intellectual stimulation (r = .12, p = .02). A marginally significant relationship was found for individualized consideration (r = .10, p = .54). Avolio and Bass (1995) previously theorized that all four components of transformational leadership have the potential to contribute to the leader's developmental impact on followers.

Another major finding in this study was that supervisor support for development was correlated (r = .11; p = .03) with self-directed learning. This result is consistent with other findings that link supervisor support for development with involvement in voluntary training, 360 degree feedback, on-the-job learning, and career related training (Maurer, et al, 2008). Supervisor support has been measured both as a stand alone construct (Kozlowski & Hults, 1988; Maurer & Tarulli, 1994) and as a dimension of a broader work environment support construct (aggregated with other variables such as organization resources, organizational philosophy, or peer support). More recent empirical work on supervisor support for development has aggregated the supervisor behavior with other measures of work environment support. The literature has postulated that the supervisor plays an important role in the allocation of resources and opportunities for development as well as in creating a climate supportive of development (Kops, 1993; Noe et al., 1997, Tannenbaum et al., 2010). Therefore, the supervisor has become widely accepted as important element in work environment support for development (McCauley & Hezlett, 2001). The present study adds to the literature because it directly examines

this relationship among knowledge workers operating in an organization with the characteristics of a continuous learning culture.

This study adds to more recent literature linking transformational leadership theoretically and empirically to leader self-development (Boyce et al., 2010; Lippstreu, 2011; Reichard & Johnson, 2011). However, the present study goes beyond previous research because it examines knowledge workers, not just leaders, and because the dependent variable is self-directed learning readiness. Transformational leadership has not been directly related to self-directed learning readiness previously; in a previous study by Mayhew (2010), a non significant finding was found between these two constructs. Mayhew's study was conducted among a sample of ongoing education students who assessed transformational leadership broadly among employers. The present study specifically identified the focal leader – the direct supervisor – which the Mayhew study did not and which has been criticized as a limitation in studies of transformational leadership (Yukl, 1999). The present study adds to that literature by identifying a small relationship with self-directed learning readiness.

This study also adds to the literature because it was conducted among knowledge workers in a single company characterized by a continuous learning culture (Tracey, et al., 1995). In a company with a continuous learning culture organizational members "share perceptions and expectations that learning is an important part of everyday work life" (Tracey, et al., 1995, p. 241). Company policies and procedures are oriented to allow employees the opportunity to learn and employees are provided resources to engage in ongoing development (Tannebaum, 1999). The current study provides evidence of a relationship between both supervisor transformational leadership behaviors

and support for development behaviors and subordinate readiness for self-directed

learning in work environments with high levels of support for continuous learning.

Alternative explanations from the literature for small correlations.

Ultimately, however, there was only a weak relationship between self-directed

learning readiness and both supervisor transformational leadership behaviors and

supervisor support for development. Thus, in this sample, very little of the variance in

the dependent variable was explained by either of the two work environmental variables.

Despite the small amount variance in self-directed learning readiness explained by the

independent variables in the study, in the literature there are plausible explanations that

fit with the present findings. Both education and management scholars proposed that

readiness to engage in development in general, and self-directed learning in particular,

will have a number of dispositional and situational antecedents (Guglielmino &

Gugliemino, 2008; Knowles, 1975; Long, 2000; Maurer, 2001; Noe, et al. 1997;

Tannebaum et al., 1997). As has been discussed previously, Noe et al. (1997) developed

a conceptual model that identifies multiple variables in the work environment related to

the decision to participate in learning experiences.

The supervisor's behavior is only one of the variables considered in the Noe et

al.(1997) model. The model provides a conceptual framework to use in considering

possible explanations for the small impact of self-directed learning readiness in the

present study. More specifically, the framework identifies additional variables not

considered in the present study that might provide insight into the results obtained.

Individual-level characteristics, organizational pay systems, self-directed learning

resources, and organization-level philosophy might all help account for the results

obtained in this study. Each of these concepts will be discussed in turn to situate the results obtained in this study in the context of the broader literature.

"Learning without a manager": Individual-level characteristics.

The Noe et al. (1997) model proposed that individual characteristics – e.g. personality characteristics - might influence for the decision process to engage in a particular type of learning. In the self-directed learning literature, Tough s (1979) seminal finding was that self-directed learners may avail themselves of helpers but more often choose to take responsibility to plan their own learning independently of such assistance. In the present study 80% of the sample scored themselves above the average on the self-directed learning readiness scale. Those scoring highest on the self-directed learning readiness also had attained a graduate degree prior to joining the company or working for their present managers ($F = 2.38$, $p = .038$).   This high level of self-directed learning readiness might reflect that the organization in the present study has a disproportionate amount of employees who were highly self-directed learners and thus, the direct supervisor had little impact on subordinate self-directed learning readiness. The question of whether self-directed learning readiness is trait or state is a long standing and unresolved question in the literature (Long, 2000). While certain authors maintain that self-directed learning readiness can be developed and influenced (Guglielmino & Guglielmino, 2003); others conceptualized self-direction in learning as a personality characteristic (Brockett & Hiemestra,1991). Oliveira and Simoes (2006) found that self-directed learning readiness was related to openness to experience and conscientiousness. Kirwan, Lounsbury, and Gibson (2010) found that 52% of the variance in a measure of self-direction in learning was accounted for by personality charcteristics. Schneider

(1987) has theorized that companies attract and retain individuals with similar characteristics. Consistent with this theorizing, Maurer et al. (2008) reported a relationship between employee personality and perceived work environment support for development. The authors explained this relationship by suggesting that individuals high in openness and conscientiousness might select to work in organizations that provide developmental experiences and learning resources. As discussed in Chapter Three, the opportunity to participate in ongoing learning activities was something Fortune Co. actively communicated and evaluated in its selection process. Thus, perhaps the most parsimonious explanation of the present findings is that that Fortune Co. may have attracted and retained a population of self-directed learners whose readiness for self-directed learning was an individual trait unrelated to the behavior of their manager.

The changing nature of performance and rewards.

According to the Noe et al. (1997) model, another antecedent to the decision to engage in development could be the behaviors that get rewarded in the organization. The present results could also be explainable by the nature of the performance in a knowledge-driven work world (Hall & Mirvis,1995; London & Mone, 1999; Noe & Malloy; 2010). Brookfield (1988) contended that self-directed learning is shaped by the social context in which it occurs. According to Ellinger (2004), self-directed learning in the workplace is understudied and not fully understood. Guglielmino and Guglielmino (2006) reported a similarly high level of self-directed learning readiness (M= 238) in the workplace for a large sample from multiple business organizations. Hall and Mirvis (1995) proposed that ongoing learning has become a performance requirement at work; they suggested that employee must "learn a living" (p. 333). London and Mone (1999)

contended that continuous learning has increasingly become a performance requirement in large organizations facing continuous change. London and Mone (1999) asserted employees recognize that learning new skills has become an expectation in the contemporary workplace. Noe et al. (1997) proposed that a commitment by employees to ongoing development would be especially true in promote-from-within organizations like the one in the present study. Therefore, for the knowledge workers in the present sample the nature of work itself and rewards for that work may be more of a determinant of self-directed learning readiness than the direct supervisor's behaviors.

Institutional support systems – The provision of learning resources.

Noe at al. (1997) proposed that perceived supports and constraints to develop serve as an antecedent of the decision to participate in development. Providing access to learning resources to self-directed learners is an HRD strategy broadly recommended in the literature to support the practice of self-directed learning in organizations (Durr, 1995; Garrison, 1987; Guglielmino & Morris, 1997; Piskurich,1993; 1994). The provision of assistance and resources to support the decision to engage in self-planned learning projects was an important theme of Tough's (1979) research. Tough (1979) suggested that institutions needed to provide resources at each step of the self-planned learning process (whether and what to learn, the decision to choose the self as planner, and the detailed decisions about the content and strategies for learning) in order support self-directed learning behavior. Piskurich (1994) argued not all employees in the workplace will recognize how to take responsibility for their own learning and therefore, organizations need to provide resources to make it easier for employees to take on this

responsibility. Maurer et al. (2008) reported that the provision of resources formed part of a supportive work environment that in turn was related to motivation to develop.

Among the learning resources the literature recommends to support self-directed learning are learning centers (which provide access to information sources and resources), learning contracts, formal self-directed learning programs, self-directed work teams, on-the-job learning, computer-based training, and other company supplied learning activities (Bietler,2000; Durr, 1995; Guglielmino & Guglielmino, 1994; Long & Morris, 1995; Piskurich, 1994).   As discussed in Chapter Three, Fortune Co. is a company with an established history of investing in self-directed learning for its knowledge workers through the use of learning contracts, HR self-development policies, education assistance, ongoing training, career development online resources, a leadership university, and self-directed learning resources. As discussed in Chapter Three, Fortune Co. espoused a development philosophy which emphasized the provision of self-directed learning resources directly to employees and encouraged employees to take responsibility for using those resources as part of their ongoing career development. Thus, the organizational provision of resources to support self-directed learning may bypass the role of the manager as a support for self-directed learning readiness.

Substituting the manager with a climate of individualized consideration.

Noe et al. (1997) also proposed that organizational philosophy and climate might serve as an important contextual antecedent to the decision process by employees to engage in learning experiences. According Noe et al. (1997), different business strategies can lead organizations to more highly prioritize, encourage, and support development behaviors by employees. According to conceptualizations by Noe et al. (1997) and

others (Avolio & Bass, 1995; Foucher & Tremblay, Maurer, 2002; Reichard & Johnson, 2011; Tannenbaum, 1997), organizations with a development-oriented business philosophy will have management policies that encourage and support continuous learning by individuals in the organization. In the present study, as discussed in Chapter Three, Fortune Co. had a business philosophy oriented toward development, sought to hire employees with high motivation to engage ongoing development., developed policies intended to encourage continuous learning, and provided numerous resources to support ongoing self-development.

Maurer (2002) theorized that organizational philosophy will impact employees' motivation to engage in development. Maurer (2002) proposed that organization philosophy will determine the allocation of resources to development, the policies and processes that support development, shape social support for development, and build employee confidence/self-efficacy in the potential for self-development. Avolio and Bass (1985) proposed that when individualized consideration becomes part of an organization's philosophy it is incorporated into every aspect of management and human resources policies. Similarly, Tannebaum et al. (2010), proposed that organizations can play an active role in promoting informal learning in organizations by providing tools and processes, time, learning opportunities, time, support, and encouragement.

In theory building on self-directed development of leadership, Reichard and Johnson (2011) theorized that organizational strategy is related to motivation to develop leadership and leader self-development behavior through its impact on HR process and organizational resources. According to the authors, HR policies will be related to leader knowledge, skills and abilities which in turn should be related to leader motivation to

develop; the authors also expect HR policies to influence group norms which will moderate the relationship of leader characteristics and leader motivation to develop (Reichard & Johnson, 2011).

Related specifically to self-directed learning, Foucher and Tremblay (1993) advised that organizations seeking to encourage the practice of self-directed learning would need to validate the value of self-directed learning, provide organizational rewards for participating in self-directed learning, provide learning centers to stimulate learning, encourage career planning as a means for identifying relevant learning needs, and support group reflection. In a survey study across five companies, Tannebaum (1997) found evidence that organizations can have different learning philosophies. The impact of HR policies and leadership philosophy on the decision to participate in development in general and self-directed learning in particular has also found empirical support in the literature (Kops, 1993; 1997; Kozlowski & Hults, 1987; Maurer & Tarulli, 1994; Noe & Wilks, 1993).

In addition to providing encouragement and support for development, a highly aligned organizational philosophy has the potential to create a strong climate of development. In the context of informal learning, Tannebaum et al. (2010) suggested that beyond simply encouraging and facilitating informal learning, when organizations seek to create a certain type of climate it can serve as a "signal" to the members that informal learning is important (p. 313). Organizational philosophy can serve to align and integrate the antecedents described in the Noe et al. model creating a reinforcing system of HR processes that produce a widely shared organizational climate (Ostroff & Bowen, 2000). Multi-level theorizing regarding climate has postulated that creating a strong

organizational climate may create consistency in behavior regardless of individual

differences within the organization (Ostroff & Bowen, 2000). Organizations with strong

HR practices have been theorized to create strong climates that reduce the variability in

employee behavior (Ostroff & Bowen, 2000).

Consistent with the strong climate theory building, Maurer (2002) suggested that

organizational philosophy can shape individual behavior and intentions independently of

the individual's actual beliefs and attitudes may be toward the developmental behavior.

Avolio and Bass (1985) also theorized that individual consideration can become a

property of an organization's culture and an expectation of its employees. While

originally conceptualized as a leadership behavior, the scholars theorized that construct

could also be considered from a multi-level perspective "as a normative characteristic of

an organization's culture, or as an expectation of the leader, group, and culture" (Avolio

and Bass, 1985, p. 204). The authors (Avolio & Bass, 1985) argued that when conceived

as a cultural characteristic individualized consideration behavior and norms become

consistently observed across all members and levels of the organization.

An explanation of the results in present study that would be consistent with this

line of theoretical reasoning is that a strong development philosophy and climate in the

company may account for the lack of relationship found between direct supervisor

behavior (both transformational leadership and support for development behaviors) and

subordinate readiness for self-directed learning. In Fortune Co. the organizational

philosophy and climate result in broad availability and access to learning experiences.

Many of these learning experiences are available to employees and don't necessarily

require support from the manager. Therefore, self-directed learning readiness may not

necessarily be related to or dependent on the managerial behavior. This interpretation of

the findings was substantiated by an unsolicited email sent from a study participant to the

researcher during the course of survey administration.

> I was one of the recipients of the survey that you are conducting for the U of M. I
> have completed the survey and wanted to pass along some feedback on the survey itself. I
> was puzzled to see that nowhere in the survey did you ask for our feedback of how the
> company supports training and learning. Beyond the individual learning questions (Part
> A), the rest of the survey was focused on whether and how my direct manager supports
> learning and training.
> In my experience, my direct manager has only been one factor of many in
> whether I attend training and how often I have the opportunity to attend training. The
> larger organization's (department/division) and the company's attitudes and level of
> support for training are significant factors and should be addressed as well in any study of
> organizational training and learning (Personal communication by anonymous, used by
> permission).

As the above quote demonstrates, in Fortune Co. the organization plays an important,

direct role in development independently of the role the manager can play. In leadership

research, Kerr and Jermier, (1978) proposed "certain individual, task, and organizational

variables act as 'substitutes' for leadership negating the hierarchical superiors ability to

exert either positive or negative influence over subordinate attitudes and effectiveness"

(p. 375). Avolio (1999) commented:

> "I don't really think they are always 'substitutes' for the leader, but rather can be
> 'extensions' of the leader developed over time that have become institutionalized positive
> aspects of the leader's style and perspective. Once institutionalized, they may seem to at
> a later time to be a substitute for the person – as I guess they should be" (p. 168).

This line of reasoning would suggest that the workplace support for development

often conceptualized to operate at the level of the direct supervisor behaviors may

actually at times function at the organizational level of analysis. Therefore, in

organizations with a strong development philosophy and climate the direct path to the

employee through philosophy or climate may have a greater impact on employee self-

directed learning readiness than the individual behaviors of each manager. If this line of reasoning it correct, then it is possible that a stronger relationship may exist between supervisor behaviors and self-directed learning readiness in a different organization with different organizational philosophy.

Manager behaviors embedded in an organizational context.

The impact of a strong development climate may also have measurement implications worth considering. In discussing multi-level effects of leadership, Avolio and Bass (1985) also suggested that the measurement of leadership would not be context free. In particular, the authors contend that a strong context may shape how followers perceive a leader's behaviors. Avolio and Bass (1985) contended that follower observations about leadership behaviors might be –subjectively - skewed by expectations created by a strong context in which they were embedded for a long period of time. This line of reasoning suggests that in an organization where individualized consideration was a normative organization value, the context might "set a threshold for how such behavior is interpreted" and the amount of variance that is unexplained might be high (Avolio, & Bass, 1985, p. 210). According to the authors, "in an organizational environment that places a significant emphasis on continuous people and process improvement, the minimum threshold required to be viewed as individually considerate may be much higher than in other organizations" (p. 205). The authors conclude that typical behavioral based measures of leadership may be less able to detect objective differences in manager behaviors than would be the case in a less developmentally oriented context.

Summary of discussion of research questions one and two.

The above discussion reviewed the findings for discussion questions 1 and 2 in the context of the literature. Transformational leadership in aggregate and as single behaviors had small, significant (or marginally significant for individualized consideration) relationships with self-directed learning readiness. Supervisor support for development had similar small significant relationships to self-directed learning readiness. The discussion considered the small size of the correlations found for these two questions and reviewed theory and findings from previous research that might account for the small size of the relationships in this study. The conceptual model proposed by Noe et al. (1997) was used to consider several contextual variables that might account for the small correlations in the present study. Selection, rewards, resources, organizational philosophy, and their aggregated effect in the form of organization level climate were all proposed as possible explanations for the low correlation between direct supervisor behavior (either transformational leadership behaviors or supervisor support for development behaviors) and subordinate self-directed learning readiness. Research questions three through five will be discussed next and then followed by a discussion of research questions six and seven.

Discussion of Research Questions Three, Four, and Five Findings

This section will discuss research questions three, four, and five with an emphasis on the mutli-collinearity among the measures. The high correlations found in this study between the transformational leadership behaviors and supervisor support for development will be related to previous research and theorizing.

The Relationship of Transformational Leadership and Support for Development

Research questions three through five addressed the relationship between transformational leadership (in aggregate and as single behaviors) and supervisor support and their joint relationship on each self-directed learning readiness. In the present sample, supervisor support for development and transformational leadership behaviors were highly correlated ($r = .80$, $p = .00$). Conceptually, the two forms of leadership have different theoretical bases. Supervisor support for development is based on theory and can be considered a process of exchanging development opportunities for good performance (Pierce & Maurer, 2009). It is reasonable to suggest that supervisor support for development is a development-focused form of contingent reward – a transactional leadership behavior. Alternatively, transformational leadership is a motivational form of leadership which raises followers towards order need on Maslow's hierarchy (Bass, 2008). However, according to Bass (1985) a leader can be both transformational and transactional. In particular, positive contingent reward behaviors have consistently been strongly related to transformational leadership behaviors (Bass, 2008). More specifically, transformational leadership scholars recently suggested that when rewards exchanged between leader and follower are psychological as opposed to material, then contingent reward behaviors can become transformational (Antonakis, Avolio, & Sivasubramaniam, 2003; Bass, 2008; Bass & Riggio, 2006). In support of this line of thinking, a meta-analysis of transformational and transactional leaderdership reported an estimated true score correlation of .80 between contingent reward and transformational leadership (Judge & Piccolo, 2004). Thus, the present study is consistent with previous findings relating positive contingent reward behaviors to transformational leadership. It adds to

the literature in comparing supervisor support for development – arguably a developmentally oriented form of contingent reward – to transformational leadership.

Given the theoretical differences between supervisor support for development (transactional leadership) and transformational leadership, the fourth research questions sought to determine whether the two variables would differentially predict self-directed learning readiness. Transformational leadership is expected to "account for unique variance in ratings of performance (or other outcomes) over and above that accounted for by active transactional leadership" (Bass & Riggio, 2006, p. 11). However, due to multicollinearity, the results for this sample did not find unique effects on subordinate self-directed learning readiness of aggregate transformational leadership ($\beta = .085$, p = .32) or supervisor support for development ($\beta = .042$, p = .62) when controlling for each other. The result of the multiple regression of transformational leadership and supervisor support for development on self-directed learning readiness was not significant ($F_{2, 382} = 2.846$, p = .059). Multicollinearity also impacted the SEM model 1 (Figure 2) and neither of the variables had a significant effect when controlling for the other. Previously, Avolio and Bass (1995) acknowledged that developmentally oriented contingent reward and transformational leadership (i.e. individualized consideration) behaviors could be similar – e.g. providing feedback. They argued, however, that from the manager's perspective the purpose of the behavior would be different. This distinction however, is from the manager's perspective. The manager's perspective was not measured in the present study and it is possible that the developmental intent of the manager may not be perceivable by the employee as measured in this study. In their meta-analysis, Judge and Piccolo (2004) noted that given the high correlation between contingent reward and

transformational leadership, "it may be difficult to separate the unique effects of constructs that correlate at such a high level" (p. 763). This line of reasoning is supported in the present study.

The measurement challenges discussed above also applied to the fifth research question the individual subscales. High correlations between the transformational leadership subscales is common from previous findings in the literature (Bass 2008; Bono & Judge, 2004; Yukl, 1999). Bass and Avolio (1995) argued that it makes sense to distinguish between the scales. However, the measurement overlap between the constructs has been heavily critiqued by leadership scholars (Yukl, 1999). Despite theoretical distinctions between behaviors, the measurement challenge of distinguishing between the conceptually distinct transformational leadership behaviors is well known (Bass, 2008). Previous researchers reported that from a measurement perspective it can be difficult to distinguish between the transformational leadership subscales despite conceptual distintctions (Bono & Judge, 2003). The transformational leadership sub-scales were highly related and did not uniquely explain variance in self-directed learning readiness in this study.

Discussion of Research Questions Six and Seven Findings

A discussion of questions six and seven will conclude the discussion section of Chapter Five. The discussion section will be followed by limitations and recommendations for future research and, then, implications for practice.

Self-Reported Performance and Self-Directed Learning Readiness

Research question six addressed the relationship between self-directed learning readiness and self-reported job performance. Self-directed learning readiness was

positively related to self-reported job performance (r = .19; p = .00).   This finding is

consistent with the continuous learning literature and with previous findings in the self-

directed learning literature (Guglielmino & Guglielmino, 2008; London & Mone, 1999).

Continuous learning organizations emphasize development as a means to ensure ongoing

performance (London & Smither, 1999b). Employees in these organizations will

increasingly need to engage in continuous learning in order to perform (Hall & Mirvis,

1995; London & Mone; 1999; Noe & Malloy, 2010). The present results provide support

for previous theorizing that has suggested that in organizations facing continuous change

performance will increasingly require self-directed learning (Guglielmino & Long; 2011;

London & Mone, 1999; Reichard & Johnson, 2011).   The results are consistent with

previous results found relating self-directed learning readiness and job performance

(Durr, et al., 1994; Oliveira et al, 2010). The present study adds to the literature of

continuous learning in organizations given its focus on knowledge workers in an

organization that can be characterized as having a continuous learning culture.

The Dual Role of the Manager: Performance and SDLRS and Supervisor Behaviors

The final research question was answered with a structural equation model that

found the direct and indirect performance imapct model best fit the data. In this model

direct supervisor transformational leadership behaviors served as an exogeneous variable

effecting self-reported job performance both directly and indirectly through self-directed

learning readiness. In a qualitative study of coaching by managers in organizations,

Ellinger and Bostrom (1999) reported that managerial accountability has expanded

beyond a focus to improve job performance and also increasingly includes a role in

supporting employee learning. These results provide support for a dual role for direct

supervisor behaviors on job performance in this sample; a direct effect of transformational leadership on subordinate job performance and also an indirect effect through subordinate readiness for self-directed learning. The present study adds to the literature in that it demonstrates how transformational leadership and self-directed learning readiness relate to performance simultaneously. The present study adds to the literature in that it provides evidence that the effect of transformational leaders on performance is not only direct but also an indirect effect through the self-directed learning readiness. This provides evidence supporting a dual role for supervisors in an organization with a continuous learning culture.

The results are consistent with arguments made regarding the changing nature of performance in organization and what it means to manage employees in an environment requiring ongoing learning (Ellinger & Bostrom, 1999; Langkamer Ratwani, et al., 2010; Tannenbaum, et al., 2010). As discussed earlier, the present study adds to the literature in that it simultaneously examined these relationships among knowledge workers in an organization that can reasonably be characterized as having a continuous learning culture. The results suggest intriguing questions about the nature of performance for knowledge workers in organizations that require continuous learning and about how those employees should be supervised.

The sequencing of these variables has been empirically and theoretically examined and supported in three different strands of literature. In the employee development research, these results are consistent with the conceptual model by Noe el al. (1997) and Maurer's (2002) theorizing. The current sequence of relationship is consistent with findings by Maurer and colleagues (Maurer et al., 2003; Maurer et al.

2008) demonstrating employee individual and situational variables led to motivational variables for development and subsequent involvement in development. Maurer et al. (2008) asserted "general and immutable trait variables such as mental ability and personality should predict the more domain-specific and mutable variables that are directly relevant to motivation" (p. 341). Employee development scholars identified the supervisor as an important variable in the working environment; the working environment serves as an antecedent to employee motivation to engage in employee development (Lippstreu, 2010; London & Mone, 1999; Maurer et al., 2008; Noe et al., 1997). Participation in employee development (which was not directly measured in the present study) in turn has been conceptualized to lead to learning outcomes that will manifest as job performance (Noe et al., 1997). A path analysis by Maurer, et al. (2008) found that perceived work support (a composite measure including supervisor support) was related to perceived benefits of developing which was in turn related to attitudes toward development and subsequent intentions to participate in development. In the self-directed learning literature, as discussed above and consistent with the work by Noe et al. (1997), previous research has found a relationship between self-directed learning readiness and job performance (Oliveira et al., 2010).

In the leadership research, transformational leadership behaviors have consistently been related to job performance (Bass & Riggio, 2006). Theoretically transformational leadership has been related to leadership self development in particular and self development more generally (Avolio, 1999; Bass, 1985; Howell & Wang, 2010; Sosik, 2006). In a path analysis by Lippstreu (2010), direct supervisor transformational

leadership was found to have both direct effects on follower development of transformational leadership and indirect effects through motivation to develop.

The present study adds to the literature discussed above in several ways. Lippstreu (2010) has already argued that employee development and transformational leadership literatures have not been sufficiently integrated in previous literature. The same can be said regarding those two streams of literature and the vast literature on self-directed learning. The present study brings together three streams of literature and examines how the variables related the combined interrelationships. The study parallels models and findings from employee development literature (e.g. Lippstreu, 2010; Maurer et al. 2008; Noe el al., 1997) but builds upon these studies by examining the effect of transformational leadership behaviors (as opposed to previous studies that have focused on supervisor support for development), self-directed learning readiness (a specific form of motivation to develop) and self-reported job performance as an outcome (going beyond most studies focus on involvement in learning). The present study considered the relationship of leadership to employee self-directed learning readiness and thus broadens the scope of recent work in leadership literature that has examined the relationship of leadership on leader self-development (Boyce et al., 2010; Langkamer Ratwani, et al., 2010; Lippstreu, 2010; Reichard & Johnson, 2011). The present study also adds to the self-directed learning literature by providing evidence supporting a relationship between the working environment (specifically the direct supervisor's transformational leadership behaviors) and self-directed learning readiness and subsequent job performance.

Limitations and Recommendations for Future Research

This next section will discuss the study's limitations as well as make recommendations for future research. Four recommendations will be made: conduct future research at multiple levels of analysis, use a variety of methods to measure the variables, and consider new approaches to understand self-directed learning in organizations.

Conduct Future Research at Multiple Levels of Analysis

A limitation of the current research is that it was cross-sectional, survey design conducted at a single level of analysis – the employee's perceptions of the manager in a single organization. The cross sectional design prevents determinations of causality from the findings and prevents any inference about role of time on the relationships observed in the present study. Kline (2011) stated that [even] "if X actually causes Y, the magnitude of their association may be low if the interval between their measurement is either too short (effects take time to materialize) or too long (temporary effects have dissipated)" (p. 99). A limitation of conducting research in a single company is that it may limit generalizability to a broader population.

In addition, phenomena in organizations are best explained by considering multiple levels of analysis (Klein & Kozlowski, 2000). As such the present study did not take into consideration possible variance in self-directed learning readiness that could be explained by including different levels of analysis (e.g. different companies)(Klein & Kozlowski, 2000). As discussed above, additional variance in self-directed readiness might have been explainable by other elements in the Noe et al. (1997) conceptual model. For example, it is possible that a strong continuous learning culture in the company that

was convenient to the researcher may account for the lack of relationship found between manager behavior and employee readiness for self-directed learning. It is possible that stronger relationship may exist between supervisor behaviors and self-directed learning readiness in a different organization with different organizational philosophies, HR policies, organizational climate, rewards, and self-directed learning resources. However, the methods in the present study would not uncover this difference. Thus a recommendation for future research is to examine the central relationship in this study (the relationship between transformational leadership and self-directed learning readiness) in multiple organizations and including the variables in the Noe et al. (1997) conceptual model using a longitudinal design. Employee development research by Maurer and colleagues (Maurer, 2002; Maurer et al., 2008) provides several variables at multiple levels of analysis that could be included to account for the variables from the Noe et al. conceptual model.

Use a Variety of Methods to Measure the Variables

The methods used to measure the variables in the study represent an additional limitation of this study. The measures of supervisor support for development, transformational leadership, self-directed learning readiness, and self-reported job performance were gathered via surveys raising the possibility of common method bias. All survey measures were also gathered from the same participants which creates the potential for common source bias to impact the measurement of supervisor behaviors, self-reported job performance, and self-directed learning readiness. Common source bias could result from employee perceptual attributions of supervisor behaviors and from self-attributions. As discussed earlier, Bass and Avolio (1995) previously suggested that a

strong organizational context might influence attributions by followers assessing leadership behaviors. In an organization that values high performance and continuous learning, social desirability may have skewed employees responses on both self-directed learning readiness and self-reported job performance.   Social desirability in the present study may have been heightened by since results from a single organization with involvement of the organization's HR function may also cause concerns about how the information will be used (Maurer at al. 2008).   Maurer (2002) theorized that mechanism by which employees are motivated to participate in learning and development activities happens when employees' development oriented part of their working self is made more accessible. In the case of the present study, the survey was conducted right after the company's individual development plan process had occurred. Thus, it is possible that the survey timing may have made the development oriented working self more accessible and influenced responses to the survey. Finally, self-reported performance was gathered using a single item measure.

Therefore, future research should consider examining these relationships using different set of measures. Common source bias could be addressed by using direct supervisor self-assessments or peer assessments to measure supervisor support for development and transformational leadership behaviors. Common method bias could be addressed using company records to measure job performance. Alternatively, common source bias could be avoided for job performance by gathering job performance using a multi item measure provided by the direct supervisor instead of the subordinate.

Consider New Approaches to Understand Self-Directed Learning in Organizations

The high levels of self-directed learning readiness found in the present organization and previous ones (Guglielmino & Guglielmino, 2006) raises questions about the measurement of self-directed learning in large publically traded organizations. Ellinger (2004) has suggested that self-directed learning is under examined in the workplace. A possible conclusion from the above discussions is that job performance and self-directed learning readiness may be increasingly confounded in the organizations with continuous learning culture. That has measurement implications studying self-directed learning in organizations. Questions about the self-directed learning readiness scale's (Guglielmino, 1978) sensitivity to distinguish between curiousity, performance orientation, love of learning, and interest in education have been raised in the past (Bonham, 1991; Brockett & Hiemerstra, 1991; Field, 1989, 1990). Bartlett and Kotrlik (1999) suggested that the measurement of work related self-directed learning may need to include additional socio- environmental variables beyond those measured in by the self-directed learning readiness scale. Recent studies in leadership self-development have included measures of participation in self-directed learning in addition to measures of intention to develop (Boyce et al., 2010). The supervisor support for development literature has also routinely included measures of involvement in development activity (often in two time periods; Maurer et al. (2003). Thus another recommendation for future study is to gather a measure of self-directed learning behavior in addition to a measure of readiness to more fully understand self-directed learning behavior in contemporary organizations.

Engage in More Theory Building of Workplace Self-Directed Learning Readiness

In the present study levels of readiness were only weakly related to close-in factors (i.e. supervisor behaviors) in the work environment. Long (2000) concluded that an unresolved question regarding participation in self-directed learning is whether it should be considered a state or a trait. Pratt (1988) suggested that self-directed learning readiness may vary from situation to situation. Brookfield (1988) argued social forces could strongly shape the practice of self-directed learning. Ellinger (2004) identified contextual factors in the workplace as an area needing further study. More recently, Bouchard (2009) theorized that the understanding of self-directed learning must expand to accommodate both technological and economic changes. Bouchard (2009) argued self-directed learning historically emphasized the importance learning strategies (i.e. decisions regarding the planning of learning activities) and psychological influences on taking action. In the current environment Bouchard proposed it is now also important to consider the influence of technology on the availability of learning content and the economic consequences of participating or not) in self-directed learning. According to Bouchard, these two additional dimensions will "promote or hinder the emergence of effective learning behavior" (p. 13). Similarly, Sennett (2006) has argued that in the current workforce jobs a certain segment of jobs are changing so rapidly that learning becomes key determinant of performance.

The present study was conducted among knowledge workers in a company competing globally. As suggested by Bouchard (2009), Sennett (2006), and continuous learning theorists (London & Mone, 1999) the knowledge workers in the present study showed a high level of readiness to engage in self-directed learning and this readiness

was related to self-reported job performance. Similarly high levels of readiness were reported by Guglielmino and Guglielmino (2006) in other corporate environments. As pointed out above, supervisor behaviors, despite being a close in factor in the work environment, were only weakly related to these high levels of readiness. The present findings raise new questions regarding the forces shaping self-directed learning readiness and self-directed learning in work environments facing high change. The results suggest readiness to engage in self-directed learning in work environments may be shaped by organization level decision making around selection and climate. Similar to earlier work on climate for updating (Kozlowski & Hults, 1987), further theory building should explore the characteristics of a climate for self-directed learning readiness. Furthermore, theorizing by Bouchard (2009) and Sennett (2006), suggest additional theory building efforts should also consider the role of extra organizational forces beyond the organization that might promote self-directed learning readiness and learning in the workplace. Consistent with this line of reasoning, Bartlett and Kotrlik (1999) that identified national culture as one factor in the social environment that could be an important determinant of self-directed learning in organizations. More fully understanding the forces shaping self-directed learning in the workplace represents a needed area of future theory building and research.

<div align="center">**Implications for Practice**</div>

The present study was conducted among knowledge workers in a Fortune 500 company with the characteristics of a continuous learning culture. It has been argued earlier that in order to remain competitive these workers need to engage in high levels of ongoing learning driven by economic and technological forces. The present study of this

unique segment of the global marketplace suggests several implications for practice.
Three implications for practice are examined: make knowledge worker self-directed
learning readiness a strategic HRD priority, shape the work environment to encourage
knowledge worker self-directed learning readiness, and prepare managers of knowledge
workers for a dual role.

The first implication for practice is the HRD professional should make self-
directed learning readiness of knowledge workers a strategic HRD priority. Developing
continuous learning in organizations has been identified as a strategic HRD objective for
the purpose of improving performance (Peterson, 2008). Many scholars have argued that
self-directed learning represents an important means to facilitate continuous learning in
organizations (Boyce et al., 2010; Guglielmino & Long, 2011; London & Mone, 1999;
Reichard & Johnson, 2011). Consistent with this line of reasoning, the present study
found evidence of a relationship between self-directed learning readiness and self-
reported job performance. Tannebaum et al. (2010) argued organizations need to
strategically evaluate their "learning portfolios" and ensure they have a mix of learning
options beyond training (p. 318); what Tough (1979) referred to as the "entire range" of
learning (p. 171). HRD can play a leadership role to ensure organizations use the full
range of learning options that will help employees keep pace with change rather than
artificially narrowing learning to that which happens in a training classroom (Bradenberg
& Ellinger, 2003; Clardy, 2000; Tough, 1979). As leaders of learning in organizations,
HRD must take ownership to expand the learning avenues available to employees beyond
formal, classroom based, teacher delivered, and organizationally determined alternatives.
Ensuring the broad provision of learning options in organizations is a strategic role HRD

can with important consequences for the future competitiveness of individuals and organizations.

A second implication for practice is that HRD professional should focus on shaping the work environment to make it supportive of self-directed learning readiness and take a broad perspective on the HRD interventions that will have the greatest impact. Ostroff and Bowen (2000) have suggested that well aligned HR systems can create highly consistent behavior in organizations. Rather than default to training managers on new skills to support and encourage self-directed learning readiness, HRD professionals should think broadly when considering what factors might be related to self-directed learning readiness in organizations. Ultimately, the present study calls attention to the role of the organization in explaining self-directed learning readiness. The present findings suggest that creating a culture of self-directed learning readiness, providing resources to enable self-directed learning readiness, and selection are all HR practices that might more effectively contribute to self-directed learning readiness in an organization than emphasizing manager skill building. HRD professionals should evaluate whether organizational development policies focused at the culture and system levels can create readiness to engage in self-directed learning irrespective of the supervisor to whom the employee reports.

At the same time, the present study does suggest the organizations should consider the importance of preparing the supervisor's of knowledge workers for a dual role. Consistent with the findings in this study, Ellinger and Bostrom (1999) found evidence that supporting employee development is increasingly part of the work managers must perform in organizations. However, the authors (Ellinger & Bostrom,

1999) contended that this development role must be taught to managers; managers will not naturally learn how to do it on their own. Therefore, an implication for practice is that organizations should make it a priority to support and equip managers to play this dual role with knowledge workers. In particular, the results from this study support encouraging, developing, and rewarding supervisor support for development and transformational leadership among managers in organizations. This study suggests ongoing management development and in particular the development of behaviors that relate to readiness for self-directed learning should be evaluated as part of comprehensive HRD strategy in organizations.

Chapter Summary

This chapter summarized the present study, discussed the major findings, proposed implications for practice, reviewed limitations of the present study and recommended future directions for research.   In a time of high change organizations and individuals need continuous learning to remain competitive (learning a living) (Hall & Mirvis,1995). Increasingly individuals will need to be ready to engage in learning that is informal, on-the-job, not-required, future oriented and ongoing (Birdi, et al. 1997; Noe et al., 1997; Tannebaum et al., 2010). Thus the need for self-directed learning by knowledge workers and readiness to engage in self-directed learning continues to increase (Guglielmino & Long, 2011; London & Mone, 1999). Understanding how the work environment might be related to self-directed learning readiness has become an important priority. The present study of knowledge workers was a focused examination on the relationship between one element in the work environment – the direct supervisor's behaviors (both support for development and transformational leadership) –

and subordinate self-directed learning readiness.   The present study added to the literature because it integrated three strands of literature employee development (highlighting the influence of the direct supervisor on the decision to engage in development), education (identifying the importance of readiness in self-directed learning), and leadership (suggesting the role of leadership motivating self-development). However, the present study found that the supervisor had only a small relationship with subordinate self-directed learning readiness. The influence of other important variables in the work environment such as selection, rewards, resources, organizational philosophy, and their aggregated effect in the form of organization level climate were all proposed as possible explanations the present findings. The results suggest that in studying self-directed learning readiness it is important to broaden the horizon of factors considered beyond the ones considered in this particular organization that was convenient to the researcher.   Perhaps the most important question left unanswered is whether similar results would be found in other organizations. The study suggests further study is needed to determine where HRD should focus its attention in shaping the workplace environment in order to encourage readiness for self-directed learning in continuous learning organizations.

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APPENDICES

Appendix A

IRB Approval Letter

UNIVERSITY OF MINNESOTA

Twin Cities Campus	*Human Research Protection Program* *Office of the Vice President for Research*	*D528 Mayo Memorial Building* *420 Delaware Street S.E.* *MMC 820* *Minneapolis, MN 55455* *Office: 612-626-5654* *Fax: 612-626-6061* *E-mail: irb@umn.edu or ibc@umn.edu* *Website: http://research.umn.edu/subjects/*

03/23/2012

Ricardo A Aparicio
18226 89th Avenue North
Maple Grove, MN 55311-1315

RE: "The Relationship Between Transformational Leadership and Knowledge Workers? Self-Directed Learning Readiness"
IRB Code Number: **1203P10862**

Dear Mr. Aparicio:

The Institutional Review Board (IRB) received your response to its stipulations. Since this information satisfies the federal criteria for approval at 45CFR46.111 and the requirements set by the IRB, final approval for the project is noted in our files. Upon receipt of this letter, you may begin your research.

IRB approval of this study includes the consent form received March 22, 2012 and the recruitment letter, prenote e-mail and reminder all received March 1, 2012.

The IRB would like to stress that subjects who go through the consent process are considered enrolled participants and are counted toward the total number of subjects, even if they have no further participation in the study. Please keep this in mind when calculating the number of subjects you request. This study is currently approved for 1200 subjects. If you desire an increase in the number of approved subjects, you will need to make a formal request to the IRB.

For your records and for grant certification purposes, the approval date for the referenced project is March 14, 2012 and the Assurance of Compliance number is FWA00000312 (Fairview Health Systems Research FWA00000325, Gillette Children's Specialty Healthcare FWA00004003). Research projects are subject to continuing review and renewal; approval will expire one year from that date. You will receive a report form two months before the expiration date. If you would like us to send certification of approval to a funding agency, please tell us the name and address of your contact person at the agency.

As Principal Investigator of this project, you are required by federal regulations to inform the IRB of any proposed changes in your research that will affect human subjects. Changes should not be initiated until written IRB approval is received. Unanticipated problems or serious unexpected adverse events should be reported to the IRB as they occur.

The IRB wishes you success with this research. If you have questions, please call the IRB office at 612-626-5654.

Sincerely,

Christina Dobrovolny, CIP
Research Compliance Supervisor
CD/ks

CC: Kenneth Bartlett

Appendix B

Permission to Use SDLRS

Guglielmino & Associates
7339 Reserve Creek Drive
Port St. Lucie, FL 34986
Phone (772) 429-2425 • FAX (772)4292423
Email: lguglielmino@rocketmail.com

INVOICE

DATE 4/11/12

TO Ricardo Aparicio

Telephone   763 764-2071

E-mail   **apar0001@umn.edu**

Service: 1200 uses of SDLRS-A @$ 3.25 $
3900.00

TOTAL COST: $
3900.00

_____

NOTE:
1. Agreement to honor copyright received.
2. Use in an online survey approved, but all copyright material must be displayed.
3. Submit your data in an Excel spreadsheet for scoring to receive results printout.

A mind is not a vessel to be filled, but a lamp to be lighted- -Plutarch

Thank you for your order.

Appendix C

Permission to Use MLQ 5X

-----Original Message-----
From: info@mindgarden.com [mailto:info@mindgarden.com]
Sent: Friday, April 20, 2012 4:14 PM
To: apar0001@umn.edu
Subject: Re: MGAgree: Multifactor Leadership Questionnaire from Ricardo Aparicio
(Order # 25533)

Dear Ricardo,

Thank you for your order and for completing the Online Use Agreement.
Please feel free to proceed with your study.

Best,
Valorie Keller
Mind Garden, Inc.

Quoting apar0001@umn.edu:

Name: Ricardo Aparicio
Email address: apar0001@umn.edu
Phone number: 763-764-2071
Company/Institution: University of Minnesota Order/Invoice number:
25533 Order Date: 4/12/2012

Project Title: MLQ Reproduction License (PDF) Instrument Name:
Multifactor Leadership Questionnaire

I will compensate Mind Garden, Inc. for every use of this online form.

I will put the instrument copyright on every page containing
question items from this instrument.

I will remove this form from online at the conclusion of my data collection.

I will limit access to this online form and require a login or
uniquely coded url. Once the login/code is used that evaluation will
be closed to use.

The form will not be available to the open Web.

I will include info@mindgarden.com on my list of survey respondents so that Mind Garden can verify the proper use of the instrument.

Method for Restricting Access:
I spoke with Chris. I am using a survey tool from the University of Minnesota. I am emailing 1200 respondents a link to the survey. The survey allows me to limit total number of respondents to 1200. The survey will close out after 1200 people have responded to the survey. The 1201st peson accessing the survey will be directed to a page telling them the survey has been closed.

Electronically signed on April 17, 2012 by Ricardo Aparicio.

Appendix D

Permission to Use Supervisor Support For Development Scale

From: Todd J Maurer <tmaurer@gsu.edu>
Subject: RE: Permission to use (and copy of) supervisor support for development scale
Date: January 11, 2012 1:58:56 PM CST
To: Ricardo Aparicio

Hello,

There is a scale in this set of measures …

Good luck with your research.

Best regards,
Todd Maurer

Todd J. Maurer
Professor of Managerial Sciences
Director, Beebe Institute
Robinson College of Business
Georgia State University
P. O. Box 4014
Atlanta, Georgia 30302-4014 USA
Phone: +1 404-413-7538 FAX: +1 404-413-7571
Link to Bio

Appendix E
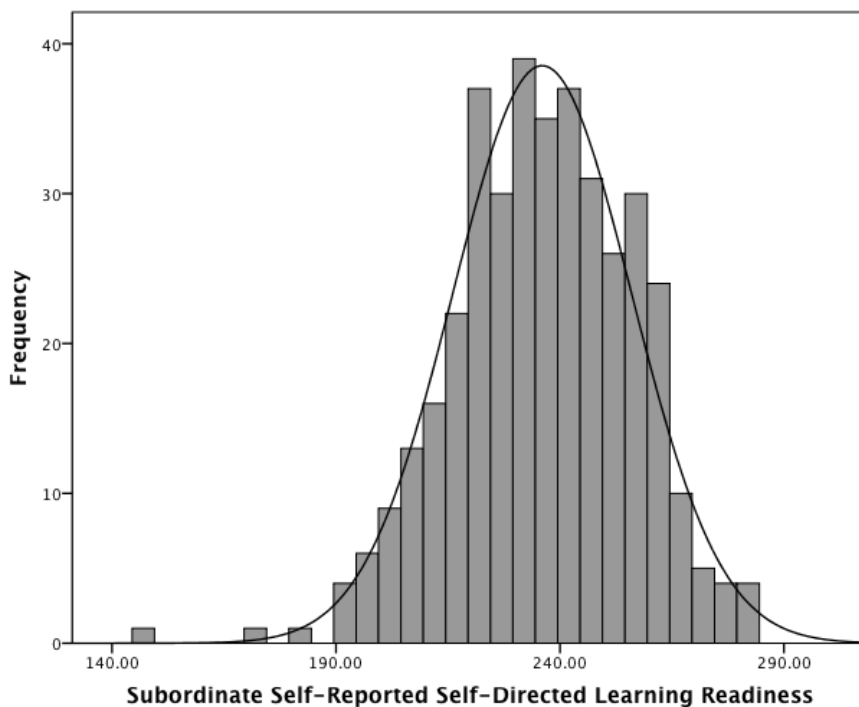
Histograms of Key Variables

Figure 5. Distribution of Subordinate Self-Reported Self-Directed Readiness Scores
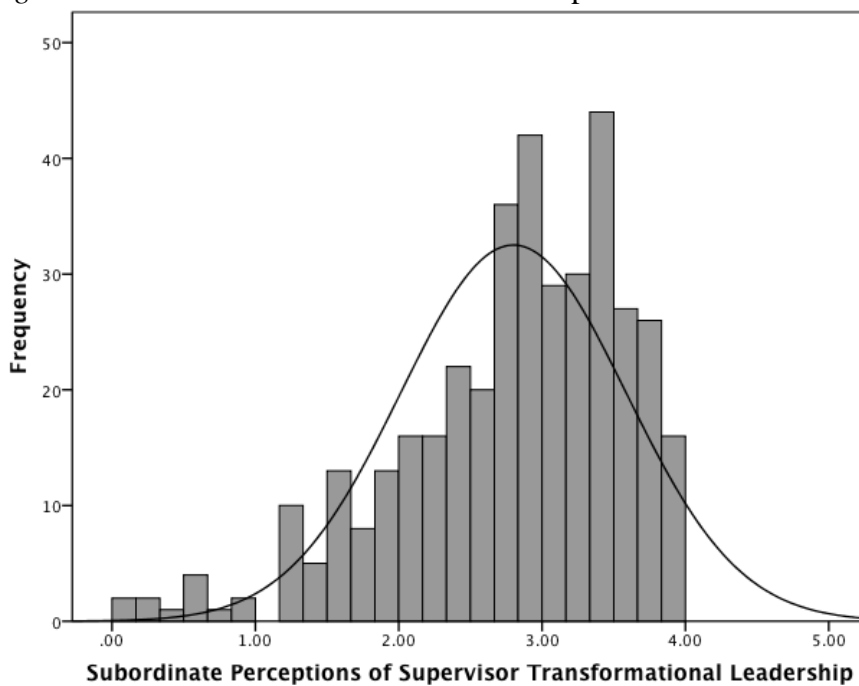

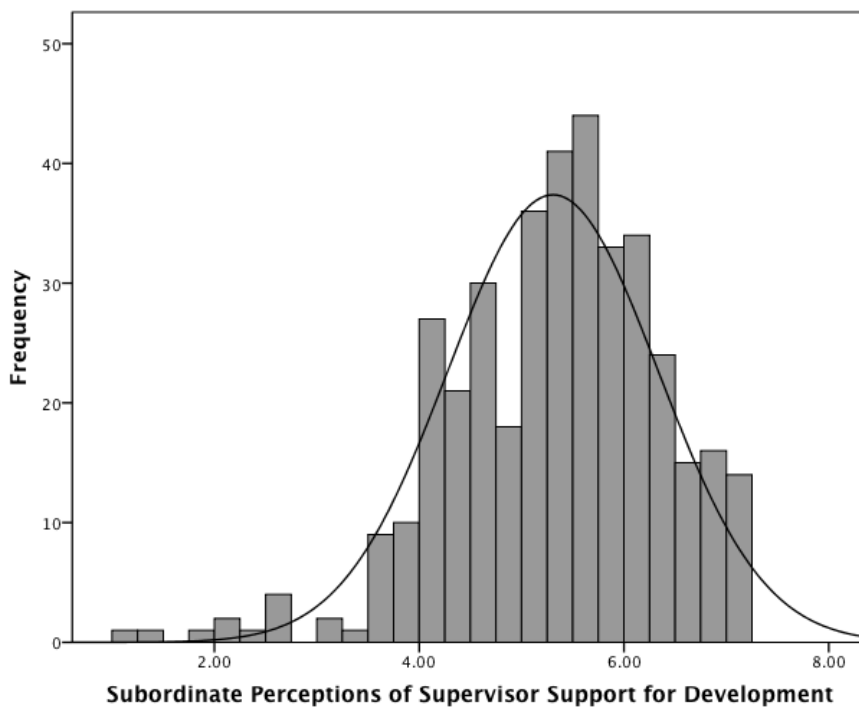*Figure 6*. Distribution of Subordinate Ratings of Supervisor Transformational Leadership

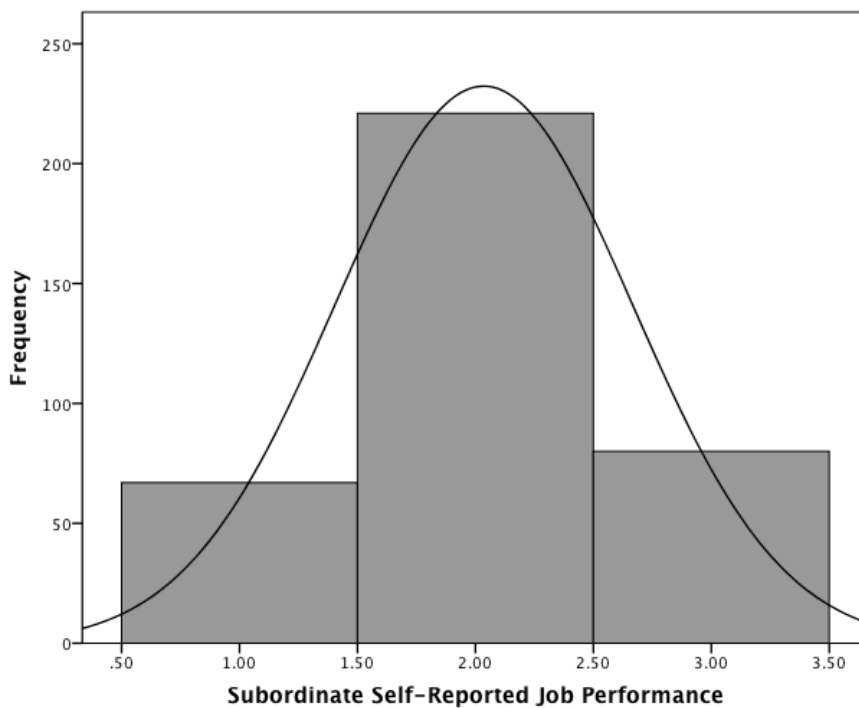*Figure 7.* Distribution of Subordinate Ratings of Supervisor Support for Development

Figure 8. Distribution of Subordinate Self-Reported Job Performance

Appendix F

Confirmatory Factor Loadings

Table 9

Factor Loadings 3 Factor CFA Readiness, Support for Development & Transformational Leadership

	Self-Directed Learning Readiness	Supervisor Support for Development	Transformational Leadership
Q02	0.46		
Q03	0.28		
0Q4	-0.45		
Q05	0.35		
Q06	0.60		
Q07	-0.22		
Q08	-0.19		
Q09	0.33		
Q10	-0.26		
Q11	0.37		
Q12	0.35		
Q13	-0.36		
Q14	0.26		
Q15	0.48		
Q16	0.33		
Q17	0.20		
Q18	0.54		
Q19	0.33		
Q20	-0.31		
Q21	-0.30		
Q22	0.33		
Q23	-0.11		
Q24	-0.13		
Q25	0.39		
Q26	0.48		
Q27	0.44		

Q28	0.39	
Q29	0.48	
Q30	-0.41	
Q31	0.54	
Q32	-0.36	
Q33	-0.58	
Q34	0.21	
Q35	0.46	
Q36	-0.26	
Q37	0.36	
Q38	0.42	
Q39	0.48	
Q40	0.57	
Q41	0.40	
Q42	0.45	
Q43	0.47	
Q44	0.47	
Q45	-0.43	
Q46	0.70	
Q47	0.72	
Q48	0.66	
Q49	-0.24	
Q50	0.67	
Q51	0.38	
Q52	0.34	
Q53	0.51	
Q54	-0.47	
Q55	0.55	
Q56	0.56	
Q57	-0.35	
Q58	0.49	
Q59	0.35	
Q60		0.54
Q61		0.47
Q62		0.67
Q63		0.67

Q64		0.82
Q65		0.70
Q66		0.69
Q67		0.76
Q68		0.76
Q69		0.73
Q70		0.84
Q71		0.63
Q72		0.65
Q73		0.75
Q74		0.67
Q75		0.76
Q76		0.83
Q77		0.73
Q78		0.71
Q79		0.75
Q80	0.81	
Q81	0.82	
Q82	0.80	
Q83	0.78	
Q84	0.64	
Q85	0.74	
Q86	0.78	
Q87	0.62	
Q88	0.74	
Q89	0.84	

Table 10

Factor Loadings for 4 Factor CFA of Transformational Leadership Sub-Scales

	Individualized Consideration	Intellectual Stimulation	Inspirational Motivation	Idealized Influence
Q60		0.61		
Q61				0.48
Q62		0.67		
Q63			0.74	
Q64				0.81
Q65			0.78	
Q66				0.69
Q67	0.77			
Q68				0.73
Q69	0.73			
Q70				0.82
Q71				0.62
Q72				0.67
Q73			0.83	
Q74	0.71			
Q75		0.84		
Q76	0.87			
Q77		0.80		
Q78				0.73
Q79			0.80	