THE IMPACT OF LEADERSHIP STYLES AND KNOWLEDGE SHARING ON POLICE OFFICERS’ WILLINGNESS TO EXERT EXTRA EFFORT TO PROVIDE BETTER SECURITY: A STUDY IN THE RIOT UNIT OF THE TURKISH NATIONAL POLICE

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The motivation for this study is to understand the factors affecting police officers’ willingness to exert extra effort for providing better service through knowledge sharing in different working environments such as riots. Since managers’ leadership styles may be important factors affecting subordinates’ willingness to exert extra effort, this study investigates which of the leadership styles -- transformational, transactional or laissez-faire leadership -- will have a positive effect on officers’ willingness to exert extra effort. In addition, the current study also examines the effect of the mentioned leadership styles on knowledge sharing, which, in turn, affects the officers’ willingness to exert extra effort in the riot unit of the Turkish National Police (TNP) in Ankara, Turkey.

The sworn line police officers working in the riot unit in Ankara, Turkey, were the participants in this study. Three questionnaires --a Multifactor Leadership (MLQ), knowledge sharing, and demographic questionnaire -- were arranged as a booklet to be distributed to the respondents.

The results of the study indicate that police supervisors’ perceived transformational leadership behavior has a positive effect on officers’ willingness to exert extra effort. In addition, the findings also reveal that although both officers’ years of service in TNP and police supervisors’ perceived transactional leadership behavior has no direct effect on officers’ willingness to exert extra effort, they have an indirect positive effect through officers’ knowledge sharing. On the other hand, police
supervisors` perceive that laissez-fair leadership behavior has no effect on riot officers` willingness to exert extra effort.

The findings also indicate that officers` knowledge sharing is positively related to both their supervisors` perceived transformational and transactional leadership behaviors. However, police supervisors` perceived laissez-fair leadership behavior has no effect on officers` knowledge sharing activities.

This research study will provide police administrations with the data necessary to adopt the most appropriate leadership styles for increasing police officers` knowledge sharing and extra effort. The findings will also serve as guidance for police managers commanding line police officers working in different environments, such as social movements, demonstrations, and riots. In that they will be aware of how important it is to create a knowledge sharing environment in riot units to provide better security in all legal and illegal demonstrations and riots. Finally, the findings will be a valuable resource not only for Turkish National Police, but also for future research studies and various police organizations in other countries.
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Our society has changed tremendously with the many recent technological developments that have increased the availability of knowledge. The broader the distribution of knowledge, the more intense competitiveness it creates among the world's businesses and organizations (Carneiro, 2000). Besides that, improvements in communication have encouraged leaders of organizations to implement the most appropriate leadership to motivate their subordinates. As stated by Lowry (2004), rapid developments and competitiveness in social life have forced leaders to compensate for the different kinds of personalities in the workplace to increase customer-care quality.

Knowledge management or sharing is not only seen as a strategic resource by most modern organizations, but has also been evaluated as a strategic tool designed to reach the organizational goal (Ipe, 2003). As knowledge is a driving force for organizational competitiveness, leadership styles may play an important role in terms of increasing the subordinates' knowledge sharing. According to Singh (2008), there is a strong positive relationship between knowledge management and consulting and delegation styles of leadership. Several studies (Lee, 2001; Verdu-Jover, 2008; Yang, 2007a) show that knowledge sharing is an important factor that increases employees' performance in an organization. Currently, leadership style is an important factor in augmenting the knowledge sharing culture in law enforcement agencies (Berg, Dean, Gottschalk, & Karlsen, 2008). In addition, traditionally, "police organizations have been
bureaucratic, quasi-military organizations, rather than open and creative knowledge organizations" (Gottschalk, 2007, p. 174).

Law enforcement agencies have played a vital role in our society. The increase in crime rates since 1990 has changed public perceptions towards police organizations. The public would like to see police be more active in preventing crime rather than solving crime after it happens (Fitzgerald, 2000).

Police work is one of the most stressful and challenging occupations in a society. Many factors can lead to stress. The structure of police organizations may be a source of stress among police officers. Similar to those of the military, police organizations have structures that give importance to strict levels of hierarchy and bureaucracy. Orders follow top to bottom and management styles do not often change. Additionally, police officers have limited opportunities to get promoted (Finn, 2000).

According to Burke (1989), police officers have high rates of suicide, alcoholism, divorce, and other health problems. They have unique stress related to their job compared to other jobs. Finn (2000) believes that police officers’ familiarity with violence and death while they do their job is the main source of this stress. To him, since police officers deal almost exclusively with the offenders, they may have a negative perception towards judgment systems that give less punishment than what they believe the criminals deserve. Additionally, their working conditions, which often require them to spend too much time on work instead of with their family, can be another cause of police officers’ stress. Stress does not only affect the police officers but also their families. Thus, Finn (2000) suggests that stress reduction programs should be implemented within police agencies in order to avoid poor productivity in policing.
Police officers face complex and difficult tasks and problems waiting to be solved in the community. Besides that, police managers as organizational leaders deal not only with difficult tasks and situations but are also responsible for increasing the performance and effectiveness of police officers. Therefore, the leadership style of police managers may play an important role in creating a knowledge sharing culture in the organization. Especially, those leadership styles at the police manager level that increase knowledge sharing among police officers can also foster an increase in their subordinates’ performance and willingness to exert extra effort. Additionally, those leadership styles that boost the sharing of explicit and tacit knowledge may help police officers be well prepared for the worst situations.

According to several studies (Politis, 2002; Verdu-Jover, 2008; Crawford, 2005), transformational leadership is one of the most appropriate style in knowledge organizations. Transformational leaders prefer to meet their subordinates’ interests instead of their own individual interests for the sake of their organization’s goals. They respect their subordinates’ ideas to facilitate innovation and increase their creativity (Ribiere, 2003).

Leadership styles of police managers also have some consequences in terms of police officers’ commitment to the organization. To illustrate the importance of the relationship between police stress related to the organization and police commitment to the organization, Jaramillo, Nixon, and Sams’ (2005) study, surveying police officers working in three counties in Florida, proves that police officers whose supervisors support them in their work have more commitment to their organization and higher satisfaction than police officers whose supervisors do not support them.
Definition of Terms

Leadership

Since leadership is abroad and complex concept, there is no consensus on its definition. According to Burns (1978), leadership is “one of the most observed and least understood phenomena on earth” (p. 4). However, leadership can be defined as the process of influencing task strategies, group identification, and organizational culture (Yukl, 1989). Furthermore, Jago (1982) asserts that Leadership is “the use of no coercive influence to direct and coordinate the activities of the members of an organized group toward the accomplishment of group objectives” (p.315).

Yukl (1989) made a comprehensive leadership definition as “influencing task objectives and strategies, influencing commitment and compliance in task behavior to achieve these objectives, influencing group maintenance and identification, and influencing the culture of an organization” (p. 253). For this study, Burns’ leadership definition (1978, p. 19), which states that "leaders induc[e] followers to act for certain goals that represent the values and the motivation--the wants and needs, the aspirations and expectations--of both leaders and followers. And the genius of leadership lies in the manner in which leaders see and act on their own and their followers` values and motivations," will be employed as a guidance function.

Working Environment

The working environment of police officers refers to police officers’ stressful workplace and its effect on their psychological well-being and physical health. As police officers working in Riot Units are assigned to provide security in legal and illegal
demonstrations and riots, they interact with people who try to defend their rights to assemble in support of a cause. However, they also struggle with criminals trying to create conflict via illegal demonstrations. Some police units such as terror, organized crime, and narcotics, have been faced with the threat of violence, which causes their workplaces to be stressful. Similarly, police officers working in Riot Units have a stressful workplace that affects their psychological well-being and physical health. As stated by Cooper (2001), individuals’ mental and physical health is negatively affected by high levels of stress.

Knowledge, Information, and Data

Bates (2005) provides definitions for information, knowledge, and data. According to her definition, information is firstly “the pattern of organization of matter and energy.” Her second definition related to information classifies it as “some pattern of organization of matter and energy that has been given meaning by a living being.” (p. 11). She defines the term knowledge as “information given meaning and integrated with other contents of understanding.” She identifies data as “that portion of the entire information environment available to sensing organism that is taken in, or processed, by that organism” (p. 13).

Bailey and Clarke (2000) also make distinctions between knowledge, data, and information. They state that information refers to data that is put in a context. In turn, knowledge refers to information when it is shaped as an interest area of people in a particular time. In the other words, an appropriate interpretation of information according to the interest area of a user in a certain situation transforms information into
knowledge. In addition, Bailey and Clarke (2000) assess knowledge as usable ideas. They explain some of the important characteristics of ideas in order to enable managers to assess them as usable ideas. First, usable ideas should be current (assessed as important), relevant (compromising a certain interest area), and actionable (doable within individuals' current capability). Furthermore, Bailey and Clarke (2000) propose that these characteristics of usable ideas are affected by the perception of each manager relative to their position and role in the organization.

While explaining the differences between knowledge and information, Machlup (1983) states that “information is acquired by being told, whereas knowledge can be acquired by thinking” (p. 644). From this explanation, it is understood that knowledge is created from our inner experience. He emphasizes that information requires transfer while knowledge is a state. Additionally, Machlup (1983) adds that “information in the sense of that which is being told may be the same as knowledge in the sense of that which is known, but need not be the same” (p. 644).

**Knowledge Sharing**

Knowledge sharing can be explained as “the optimizations of explicit knowledge… achieved by the consolidation and making available of artifacts. The optimization of tacit knowledge is achieved through the creation of communities to hold, share, and grow the tacit knowledge” (Snowden, 1999, p. 63). With knowledge sharing, individuals share their opinions, experiences and organizational information within their organization. Knowledge sharing among individuals can happen in two ways: explicitly
and tacitly. While explicit knowledge is transmissible, tacit knowledge is more specific to the individuals (Bartol & Srivastava, 2002).

**Explicit and Tacit Knowledge**

There are two types of knowledge, explicit and tacit. Koskinen (2003) gives the definition of tacit knowledge as that which “an individual has collected while he has performed different task and duties in different contexts and situations of his or her life” (p. 68). In other words, tacit knowledge is held in the mind of people and is difficult to transfer and describe. Contrary to tacit knowledge, Koskinen (2003) defined explicit knowledge as that which “can be embodied in a code, or a language and as a consequence it can be communicated easily” (p. 69). In other words, explicit knowledge has a clear meaning without any ambiguity and is therefore easy to codify and store in a database (Grayson & O'Dell, 1998).

**Problem Statement**

As in most of the police organizations, police Riot Units have confronted several difficulties while providing security against collective gathering. Police officers working in Riot Units not only have physical risks while they struggle with demonstrators, but also face some intensive stress due to their decision of whether or not to use force while providing security in a gathering. In this sense, sharing explicit and tacit knowledge in Riot Units is crucial for police officers in order to be prepared for the worst situations in both legal and illegal demonstrations and riots. Zajac and Bazerman (1991) point out that knowledge transfer is an important tool for organization members, not only for
defining and reacting to the different kinds of serious environmental situations but, also for adapting to these situations more quickly. Additionally, with knowledge transfer, organizational members obtain more absolute information and provide better decisions (Gnyawali, Stewart, & Grant, 1997).

At this point, the leadership styles of police managers may play a crucial role in transferring explicit and tacit knowledge among police officers. Police managers’ leadership styles emphasizing knowledge sharing are expected to cause police officers either to provide better security through the learning of previous mistakes or to increase willingness to exert extra effort in legal and illegal riots and demonstrations. Among the effective leadership styles, transformational leadership is discussed as the most effective in increasing knowledge sharing in the organizations (Garcia-Morales, Llorens-Montes, & Verdu-Jover, 2008). Moreover, Yang (2007a) states that knowledge sharing increases organizational effectiveness.

Some studies (e.g., Al-Alawi, Al-Marzooqi, & Mohammed, 2007; Lin, 2006; Zmud & Lee, 2005) emphasize the importance of the organizational culture and climate on subordinates’ knowledge sharing while other studies (e.g., Foos, Schum, & Rothenberg, 2006; Ipe, 2003; Lu, Leung, & Koch, 2006) investigate the impact of individual and interpersonal factors on knowledge sharing. In addition, some scholars (e.g., Verdu-Jover, 2008; Crawford, 2005; Politis) have examined the association between leadership roles and organizational performance in public and private organizations. However, the majority of leadership studies do not consider the working environment of individuals as an important factor affecting knowledge management and sharing, which, in turn, affects individuals’ willingness to exert extra effort. Additionally, scarce studies
exist examining the effect of leadership on subordinates’ knowledge sharing in law enforcement agencies. Although several studies (e.g., Berg et al., 2008; Lin & Lee, 2004) emphasize the role of police management in knowledge sharing in a police organization, there is no study measuring the effect of transformational, transactional, and laissez-faire leadership styles on officers’ willingness to exert extra effort thorough knowledge sharing among police officers working in different working environments. In order to fill this gap in the literature, the current study will investigate police officers’ perceptions of their leaders’ leadership styles and their willingness to exert extra effort through knowledge sharing in the Riot Unit of the Turkish National Police (TNP). Moreover, this research is the first study investigating the impact of police officers’ perception of their leaders’ leadership styles on their willingness to exert extra effort through knowledge sharing in the Riot Unit of TNP in Ankara, Turkey.

Importance of the Study

This study examined the effects of transformational, transactional, and laissez-faire leadership styles on police officers’ knowledge sharing, which, in turn, affects their willingness to exert extra effort in the Riot Unit of TNP in Ankara. The current study has some important consequences in terms of the literature and law enforcement agencies.

First of all, the theory of transformational leadership will be tested in Turkey, which has a different culture than that of the West. Most of the studies measuring the effect of transformational leadership on knowledge sharing were implemented in countries exhibiting western cultural characteristics. As stated by Bass and Riggio (2006, p. 100), “leaders create and reinforce norms and behaviors within the culture.”
Therefore, the characteristics and visions of transformational leaders may vary from culture to culture due to the differing situational factors. Moreover, many companies have built knowledge management tools and processes in order to create knowledge sharing in their organizations; unfortunately, however, most of them failed due to lack of senior manager support (McDermott & O'Dell, 2001). Therefore, this study is important in terms of investigating the effect of the transformational leadership style on officers’ willingness to exert extra effort through knowledge sharing in an eastern culture.

Secondly, the majority of the previous studies emphasize the effect of leadership styles on knowledge sharing in public and private organizations. However, the effect of leadership styles on knowledge sharing in law enforcement agencies, which have different organization types and working environments than the others, has not been studied systematically. Consequently, the current study is important, especially for police managers who are responsible for providing security in legal and illegal gatherings, as the results of this study will give them an idea about which leadership styles increase knowledge sharing, which, in turn, increase officers’ willingness to exert extra effort to provide a better security in legal and illegal demonstrations and riots.

Research Questions and Hypotheses

In light of the literature related to leadership studies and knowledge management, a survey questionnaire was offered to line police officers working in different working environment in the Riot Unit of Ankara, Turkey to answer the following questions:

RQ: 1. How do line police officers’ perceptions about their managers’ leadership styles affect officers’ willingness to exert extra effort in providing better security?
There are seven hypotheses tested according to Research Question 1.

RQ: 2. How do line police officers’ perceptions about their managers’ leadership styles affect officers’ knowledge sharing in providing better security?

Seven hypotheses are also tested under that research question.

RQ: 3. How does line police officers’ knowledge sharing affect their willingness to exert extra effort in providing better security?

Two hypotheses are tested under the Research Question 4.

All of the hypotheses are addressed in Chapter III.

Overview of the Chapters

This chapter briefly presents the purpose of the current study, the problem statement, the importance of the study, and the research questions and hypotheses. Chapter II introduces the theoretical framework of the study and provides a comprehensive literature review related to leadership, knowledge sharing, and extra effort. In addition, Chapter II emphasizes the studies examining the impact of leadership and knowledge sharing on law enforcement officers’ extra effort. Chapter III describes the research methodology, the method of analysis, the sampling plan and method, the structure of the sampling environment, the data collection method, and the administering of the survey questionnaire of this study. Chapter IV includes the descriptive statistics, multivariate and mediating analyses and results. Finally, Chapter V presents a summary of the findings and discussion thereof, this study’s limitations, and directions for future studies. Moreover, theoretical, methodological, and professional implications are discussed in this chapter.
CHAPTER II
LITERATURE REVIEW

Introduction to the Chapter

This chapter includes two subsections. The first subsection is related to the concept of leadership. The second subsection is related to knowledge management and sharing. The leadership subsection starts with the definition of leadership and outlines the major leadership theories. The knowledge management and sharing subsection summarizes the studies on knowledge management and knowledge sharing and illustrates the relationship between organizational, individual, and interpersonal factors and knowledge sharing. In addition, the association among leadership styles, knowledge sharing, and law enforcement is examined. Finally, the impact of leadership styles and knowledge sharing on individuals’ willingness to exert extra effort will be presented.

Leadership

*Leadership Definitions and Theories*

The Leadership Definitions

There is no agreed upon definition for the concept of leadership. According to Stogdill (1974, p. 259), “there are almost as many definitions of leadership as there are persons who have attempted to define the concept.”

Generally, leadership is defined in terms of its influence on follower, task goals, and organizational culture. Scholars have different interpretations of the definition of leadership. For example, some scholars believe that leadership is a shared social
influence process that affects all members in a group whereas others assert that the individual who has more influence in the group undertakes leadership, which is therefore not shared with other members in the group (Yukl, 1989).

According to Burns (1978, p. 19), leadership is defined as “Leaders inducing followers to act for certain goals that represent the values and the motivation—the wants and needs, the aspirations and expectations—of both leaders and followers. And the genius of leadership lies in the manner in which leaders see and act on their own and their followers’ values and motivations.”

Scholars also have different interpretations related to the distinction between leadership and management. According to Bennis and Nanus (1985), “managers are people who do things right and leaders are people who do the right thing” (p.21). Yukl (1989) specifies that managers emphasize the requirements, responsibilities, and necessities defined by authority to be done while leaders underline the impact of these requirements to others.

The General Leadership Theories

Leadership has been studied by many scholars in many different fields. In general, scholars have different perceptions and preferences. Some leadership studies emphasize the importance of the traits of leaders whereas others stress the importance of behavioral factors and characteristics of the leaders (Yukl, 1989). There is no consensus on the proper mode of categorizing leadership between these studies and theories. This section reviews the major precedent leadership theories and studies to understand the theoretical framework of transformational and transactional leadership.
Specifically, treat theory, behavioral approaches, and situational leadership theories will be investigated in this section.

**Great Man Approach**

The mainstream of leadership studies in the nineteenth century was dominated by the “great man” theory. The great man theory emphasizes leaders’ exceptional characteristics. This theory further asserts that history is changed and shaped by leaders who have extraordinary characteristics (Wart, 2003). A common belief that affected many scholars in this period was that leaders are born, not made. This belief caused many to think that the fate of leaders directs history. Besides this, the great man theory posits that people cannot develop talents beyond those with which they were born. “No matter how great their desire to learn, unless they possess certain extraordinary endowments—unless they possess a talent that can be nurtured and developed—they will not be successful in their attempts to lead” (Cawthon, 1996, p. 2).

This theory, however, received much criticism from scholars. For example, Bennis and Nanus (1985) assert that leadership can be learned and that the belief that leaders come in to world with extraordinary talent is not true. They pointed out that everyone can learn the major capacities of leadership if they don’t have any disorder related to learning. According to Cawthon (1996), proponents of the great man theory also assert that although potential leaders may have innate talents, they will not become a leader unless situational forces condition such a development. To support this assertion, Cawthon (1996, p. 3) poignantly inquires, “Without chaos in the Roman
Catholic Church, would Lutheranism exist, today? Without Hitler, would Churchill have continued rambling his way through life?"

**Trait Theory**

In the twentieth century, studies related to leadership focused more on the traits and characteristics of leaders. Researchers investigated what kinds of traits leaders usually have by doing personality tests (Wart, 2003). The concept of the “great man” revealed three questions about leadership: (a) what are the major characteristics that the leaders have? (b) Is there any possibility to predict potential great leaders by identifying the common traits of leaders? (c) Is there any possibility to learn how effective a leader will be? (Chamorro- Chemusik, 2007). Several studies were implemented in order to examine these issues individually. Leadership was believed to be the product of special capabilities and features of certain individuals (Chemers, 1997).

The trait theory is the extension of the great man theory in that it emphasizes more the personal characteristics of the leader. Some of the leaders who significantly influenced world history such as Frederick the Great, Napoleon, Mussolini, Churchill, Roosevelt, and Ford, were modeled to define the traits of the leaders generally (Gehring, 2007). What makes the trait theory different from the great man theory is that it does not consider whether the traits of the leadership are inherited or not. They only determine the different characteristics that distinguish leaders' from non-leaders (Kirkpatrick, 1991).
The trait theory asserts that physical characteristics such as height and energy, level of education, and socioeconomic status, along with personality traits such as dominance, self-confidence and tolerance to stress could be used as the traits that differentiate leaders from non-leaders. Several social scientists focused on the characteristics of powerful personal leaders to find out what kind of traits they had apart from followers and non-leaders. (Chamorro- Chemusik, 2007). However the results of these studies revealed that there were two major problems with defining the traits of leaders. First, the list of traits was too long. Second, the identified traits were not the same in all situations (Wart, 2003).

After Stogdill, one of the most prominent scholars of trait theory, proclaimed “a person does not become a leader by virtue of the possession of some combination of traits” (Stogdill, 1948, p. 64), this theory lost its favour (Wart, 2003). What caused Stogdill to make his critiques about trait theories was that no traits were universally correlated with effective leadership and situational factors were shown to have an impact (Kirkpatrick, 1991).

**Behavioral Approaches**

Since trait theory encountered some problems in attempting to explain the major traits of leadership, later studies headed towards investigating the behavioral contexts that might have an impact on leaders. Behavioral theories investigated the behaviors of effective leaders to identify which of these might serve to define leaders apart from other individuals. Behavioral research studies are similar in some respects to those of trait theory. The studies were generally based on the observations of individuals who
were organizational-level-specific supervisors rather than leaders whose responsibilities covered a wide range, such as those leading an entire organization. This approach did introduce the use of questionnaires measuring the subordinates’ perception of their leaders’ behaviors as a major technique in identifying the behavior of leaders (House & Aditya, 1997).

One of the earliest behavioral studies was conducted by Kurt Lewin in 1939 at the University of Iowa. This study categorized leaders as being either autocratic, democratic, or laissez-faire (Kest, 2006). In the autocratic leadership style, the leader decides policy according to work tasks. The leader does not exhibit a hostile manner toward the subordinates but maintains distance from them in order not to participate in decision making process. When the subordinates do a good job, the autocratic leader praises them, but if the productivity slows, he or she punishes them. On the other hand, democratic leaders consider their subordinates in the process of determining policy. Group discussion and leader’s technical suggestions are important to achieving any task in this style. Members have the opportunity to participate in deciding the division of labor. Praise and criticism of the subordinates are given according to objective criteria. Laissez-faire leaders are different from both autocratic and democratic leadership. Laissez faire leaders do not participate in policy determination and division of labor. Rewards are rarely given for subordinates’ well-done work (Miner, 2005).

The studies of Ohio State University and University of Michigan in the late 1940s and early 1950s are important research studies in terms of demonstrating the impact of leaders’ behavior on group members. The Ohio State University study revealed that leaders with high consideration and groups with initiating structure were related to high
performance and satisfaction. They categorized leaders as task oriented and people oriented. Likewise, the Michigan studies classified effective managers as (a) employee oriented, meaning that these managers considered their employees and focused on the group relationship, and (b) production oriented, meaning that they concentrated more on production and achievement of goals. The results of the Michigan study revealed that higher job satisfaction and productivity were related to employee-oriented leaders (Kest, 2006).

Behavioral approaches also examined the impact of leaders’ behavior on followers’ motivation, performance, and satisfaction. However, situational factors affecting leaders were blamed in this approach. Two of the major contributions of this theory are the classification of leadership behaviors into task-oriented and person-oriented behaviors. As a limitation, to understand the behavior of leaders, this approach employed a research methodology observing the individuals (lower level leaders) in a laboratory environment instead of observing leaders responsible for a large organization (House & Aditya, 1997).

**Situational and Contingency Theories**

Criticisms of trait and behavioral approaches caused a paradigm shift regarding the importance of situational factors in the leadership process. Situation leadership theories explain that leaders first assess their own behavior, their followers’ behavior, and the situation in order to implement an appropriate leadership role. Leaders’ leadership styles should be compatible with the situation and culture in which they seek to produce change (Yeakey, 2002).
Fiedler’s contingency theory, Hersey and Blanchard’s situational theory, and House’s path-goal theory are the major theories that can be appraised under the situational approach (Yukl, 1989).

Fiedler’s contingency theory posits that no right or wrong leadership exists because of the fact that the type and role of leadership may vary in different circumstances and situations. Fiedler (1967) developed a questionnaire called the Least Preferred Co-Worker (LPC) to measure the effectiveness of the leaders. Eighteen pairs of different objectives motivate this questionnaire, all of which were aimed at eliciting responses able to reveal a basic leadership style. Different situations were matched with different leadership styles to identify those features maximally contributive to performance. A high score in LPC refers to a high relationship motivation (Kest, 2006).

Then, Fiedler (1967) examined the leader, member, and the task under three situational contingencies: (a) leader-member relations, (b) task structure, and (c) position power. Leader-member relations refer to a measure of the strength of the relationship between the manager and the employees. Members’ trust, respect, and confidence towards their leader are related to favorable relationships. The task structure refers to whether the job is well structured, unstructured, or somewhere in between. If it is well structured, then the working condition is favorable and the leader influences the group appropriately. Finally, position power refers to the authority that was given by the organization to the managers for rewarding and punishing the subordinates. He categorized the leaders into two groups: those who are relationship-oriented and those who are task-oriented. A high LPC score indicates that leaders have good interpersonal relations while a low score indicates that they concentrate more on the task at hand.
Hersey and Blanchard’s situational theory first emerged as the life cycle theory of leadership later, in the mid-1970s, the theory was renamed situational leadership theory (Hersey & Blanchard, 1977). Hersey, Blanchard, and Johnson (2004) suggest that leadership training is necessary for leaders to learn to adapt to different situations. They have an opinion parallel to that of the theoretical proposition of the Ohio State study – namely, “the behavior of the leader could be described as a mix of both dimensions” (Hersey et al., 2004, p. 93). Hersey and Blanchard (1969) asserted that leaders need to demonstrate different kinds of leadership styles.

One of the dimensions of situational leadership theory is task-behavior and relationship-behavior, parallel to the Ohio State study’s initiating structure and consideration leadership style. Task-behavior refers to the leaders who direct the followers’ activities and the subordinates who get information about the structures of the task. Relationship-behavior refers to the leaders who support the subordinates when they need it and emphasize the relationship between subordinates with providing open communication (Hersey & Blanchard, 1974).

Four leadership styles were developed in the theory

- **Telling** (high task-low relationship): Roles and different tasks are defined by the leader. That leadership is applicable to new employees as they need help at the beginning of the job.

- **Selling** (high task-high relationship): The leader directs and supports the subordinates to develop their capabilities.

- **Participating** (low task-high relationship): Both the leader and subordinates are in the process of decision making.

- **Delegating** (low task-low relationship): Little support is given by the leader as the subordinate demonstrates the highest level of maturity (Hersey et al., 2004)
Hersey et al. (2004) argues that leaders` leadership styles change according to the maturity level of the followers. The relationship may change from the telling, selling, and participating, through to the delegating leadership style according to the followers` lowest level of maturity to highest level.

Another situational theory developed by Robert House (1971) is called the path-goal theory. This theory posits that a relationship exists between leaders` behavior and followers` performance. In other words, followers` performance is affected by the behavior of the leaders (House, 1971). Four leadership styles are defined under this theory; directive leader, supportive leader, participation leader, and achievement oriented leader. Directive leaders refer to the leaders who explain work expectation clearly to the subordinates so that they know what to do. A special guidance is given by the leader. Supportive leaders refer to the leaders who support and care the needs of their subordinates. Participation leaders refer to the leaders who consider their subordinates` opinions in the process of decision making as it is assumed that their abilities are high. Achievement-oriented leaders refer to the leaders who set challenging goals for their followers to accomplish as it is assumed that their followers will do their best. For all that the followers know, they will be rewarded after the work is done. This theory asserts that leaders are flexible in terms of adapting to different kinds of situations and that they will exert an appropriate leadership style according to the requirement of the situation (Kest, 2006).

The Theory of Transformational Leadership

Beginning in the 1970s, the majority of the research studies related to leadership
highlighted the transactional leadership theory (Kuhnert & Lewis, 1987). After Burns’ (1978) leadership book explaining that transactional leadership have always been studied but transformational leadership is being blamed, most of the studies emphasized toward to transformational leadership (Wart, 2003). Burns (1978) examined the transformational and transactional leadership styles. He separated these two styles in terms of carrying different responsibilities. According to Burns (1978), transformational leadership happens when people take part in the leadership process and engage with others in such a way that each of them can elevate each other to a higher level of motivation. On the other hand, transactional leaders interact with people to exchange valuable resources, such as rewards. In other words, the main purpose for engaging with each other is to exchange information and receive rewards or punishments based on the quality of that information. This contract between transactional leaders and others can only be maintained until the contract ends. Transactional leaders use power to gain benefits. Parallel to this, followers fulfill the requirement of the work until there is a harmony between the rewards they receive and their needs (Flood, Hannan, Smith, Turner, West & Dawson, 2000).

When Burns (1978) gives the definition of leadership, he asserts that leaders encourage followers to perform certain tasks and provide the necessary motivation to meet their needs and those of their followers. Additionally, he adds that leaders, in order to foster effective relationships with their followers, should consider meeting their followers’ expectations by giving them motivation. Moreover, Burns (1978) asserts that "leaders can also shape and alter and elevate the motives and values and goals of followers through the vital teaching role of leadership" (p. 425).
Burns’ (1978) theory was expanded by Bass (1985) who states that a leader may represent both transformational and transactional characters at the same time. Furthermore, he points out that both transformational and transactional leadership styles do not take place at the different ends of the same part. According to Bass (1985), in transformational leadership style, leaders encourage followers to focus on organizational and team goals. Additionally, they seek ways to satisfy their followers’ higher-order needs. To Bass (1985), while transformational leadership presents intellectual inspiration and individual reflection, transactional leadership does not.

Bass and Avolio (1994) divided transformational leadership into 4 categories:

(a) Idealized influence: Leaders show admiration for their followers in order to use this credit to meet their and their followers’ needs. Since they have moral values, they do not use their power for personal gain.

(b) Inspirational motivation: Leaders emphasize the motivation of their followers to achieve the team’s and the organization’s shared goals. They always seek ways to inject passion into their followers.

(c) Intellectual stimulation: Leaders are respectful of their followers’ ideas and opinions. Additionally, they encourage their followers to use their ideas and opinions in order to be innovative.

(d) Individualized consideration: Leaders pay special attention to their followers’ individual needs. They evaluate their followers not only as employees but also as individuals whose expectations and opinions should be respected.

Charismatic leadership takes prominence as the center process of transformation leadership. The trust and confidence toward to leader is so high that the followers have
admiration and good feelings about their leaders` vision (Bass, Avolio, & Bebb, 1987). According to Bryan (1992) charismatic leadership, proposed originally by House (1977), is seen as being synonymous with transformational leadership; however, charismatic leadership is a component of transformational leadership (idealized influence) (Bryman, 1992).

Bodla and Nawas (2010) states that one of the components of transformational leadership, that is, idealized influence, has two aspects; Idealized Influence (attributed), Idealized Influence (behavioral). Transformational leaders` behavioral characteristics are appropriate for them to be a model for the people they lead. Since they have respect and trust, they are an excellent example for their subordinates to be emulated. Besides that, transformational leaders are believed to have extra capabilities and special personalities. Likewise, transformational leaders prefer dealing rather than arbitrating. They can take risk whenever required and present a high level of moral behaviors.

Transformational leaders focus on longer term goals instead of short term goals. They set the goals and give importance to the vision. They inspire followers to track the vision. If a change is required for the vision to be accomplished, they change the system instead of insisting on the existing systems. Moreover, transformational leaders encourage their followers to take more responsibility both for their and others` development (Howell & Avolio, 1993).

Bass, Avolio, and Bebb (1987) point out that transformational leaders respect their subordinates` beliefs and values with intellectual stimulation. In this way, leaders encourage their subordinates to think in new ways in the process of solving problems.
With their leaders` intellectual stimulation, followers develop their capabilities to solve future problems.

Inspirational motivation is an important component of transformational leadership. Transformational leaders with inspirational motivation inspire and motivate their subordinates in terms of committing them to the vision of the organization. Besides that, they also support the team spirit (Avolio, 1999). Bass (1996) asserts that “transformational leaders behave in ways that motivate and inspire those around them by providing meaning and challenge to their followers` work” (p. 9). In other words, leaders create enthusiasm and optimism. Followers are involved in the process of transforming the organization`s future. With the enthusiasm created by the leaders, followers are inspired to commit to the organization`s goals and shared visions.

Individualized consideration is another important component in transformational leadership. Individualized consideration refers to leaders who concern themselves with their subordinates as individuals and take part in the developmental process of their subordinates. They also consider their follower`s needs, actions, and aspirations as a mentor or coach. These leaders also respect and celebrate their followers` contributions to the team (Bass & Bass, 2008).

Transactional Leadership

Transactional leadership emerges if the leader implements rewards or discipline to the followers according to their level of performance (Avolio & Bass, 2002).

Transactional leadership has three major components: contingent reward, management by exception (active), and management-by-exception (passive).
Contingent reward refers to the leaders who provide material or psychological rewards to their followers for obeying the rules and fulfilling task requirements. Management-by-exception (active) refers to the leaders who observe their subordinates’ wrong actions, those opposite the rules and standards of the organization or project, in order to correct their actions. Management-by-exception (passive) refers to leaders who only intervene and take action when subordinates fail to fulfill the required rules and objectives (Goldstein, 1990).

Leaders using the contingent reward method make an agreement with the follower, promising them a reward if they do their assignment in a satisfactory way (Avolio & Bass, 2002).

According to Bass (1985), in the relationship between a transactional leader and his or her followers, the latter believe the former (a) "recognizes what it is we want to get from our work and tries to see that we get what we want if our performance warrants it; (b) exchanges rewards and promises of reward for our effort; and (c) is responsive to our immediate self-interests if they can be met by our getting the work done" (p. 11).

Another of the components of transactional leadership is management by exception. Though this is not a very effective method, it is used in some certain situations. In active management, the leader monitors the subordinates, keeping track of whether they keep to the standards and do the correct things in the process of completing their assignments. If needed, the leader takes action to correct the mistake. No action is taken unless the subordinates make a mistake or error in their assignments. Required correction is taken after a subordinate’s mistake (Avolio & Bass, 2002).
Laissez-fair Leadership

Laissez-fair leadership is a kind of passive leadership as compared to the more active transactional and transformational leadership (Bass, 1999). Laissez-fair leaders do not want to engage in the organization’s matters. They want employees to solve problems themselves. Since they are not engaged in decision-making processes all day long, some delays may occur in the decision-making process. Additionally, they do not constantly struggle to provide for their employees’ needs and demands. Moreover, the feedback of employees does not encourage them to take action (Bass & Avalio, 1990).

The laissez-faire leaders’ behavior is different from that of the other types of leaders in that they "do not care what happens, avoid taking responsibility, cannot make up their minds, and are satisfied to sit and wait for others to take the necessary initiatives imposed by the tasks at hand" (Avolio & Bass, 2002, p. 67).

Leadership Styles and Extra Effort

Schaubroeck, Lam, and Cha (2007) examine the association between transformation leadership behavior and group performance. The sample comprised 218 financial services teams which had branches both in Hong Kong and the United States. The researchers used team potency, team members’ general opinions about the capability of their team, as a mediation effect to measure the effect of transformational leadership on team performance. The results revealed that transformational leadership has a positive effect on team performance through team potency.

Whittington, Goodwin, and Murray (2004) investigated the effect of transformational leadership on subordinates’ performance, organizational commitment,
and organizational citizenship behavior through job enrichment and goal difficulty. This research involved a field study in 12 different organizations. The sample consisted of 209 leaders and followers. The researchers concluded that both transformational leadership and job enrichment have significant major effects. Moreover, the results proved that the mediating variable of job enrichment changed the effect of transformational leadership on affective commitment, while goal difficulty increased the association between transformational leadership and subordinates’ performance and effective commitment.

Carmeli and Schaubroeck (2007) investigated the impact of the perceived expectations of the leader, customers, and family on self-expectations for creativity, and, in turn, individuals’ creative involvement at work. A survey was sent to randomly selected employees working in two different service organizations in Israel for this study. Among the total 155 questionnaires, 140 participants’ responses were accepted as usable data. The results show that employees who have a higher level of creative self-efficacy, meaning individuals’ beliefs about accomplishing a required action for desired results in different circumstances, and self-expectations for creative behavior at work are more likely to participate in creative work as compared to those employees who have low creative self-efficacy. In addition, the results of this study prove that leaders’ expectations for creativity affect positively and strongly both individuals’ self-expectations for creativity and individual’s involvement in creative work.

Schyns, Kroon, and Moors (2007) emphasize the perception of leader-member exchange (LMX). They propose that perceived quality of this relationship is related to followers’ expectancies and preferences. In addition, they also investigate what kind of
characteristics of followers impact their perception of LMX. A survey instrument was employed to the sample of 588 Dutch employees working in different fields. The questionnaire intended to measure followers’ perception of romance of leadership, idealized supervisor, need for leadership, dependence and perception of LMX. The researchers conclude that followers’ perceptions about the need for leadership and dependence, meaning that employees expect their leaders to facilitate the process of accomplishing the goal, are positively related to their perception of LMX.

Hirst, Dick, and Knippenberg (2009) emphasize the associations among team identification, leader inspirational motivation, employee creative performance and employee creativity. They define creative performance as employees’ new solutions to the problems which emerge in the process of reaching work goals; creative effort is defined as the pro-active learning of useful ideas in the process of facing a problem to increase individual’s creative performance. The data was collected from 115 matched pairs of employee-leader ratings in a large multi-national pharmaceutical company. The study concludes that a leader’s inspirational motivation increases the relationship between creative effort and identification. In addition, creative effort positively and indirectly mediates the relationship between team identification and employees’ creative performance.

Levy, Cober, and Miller (2002) examine the relationship between feedback-seeking behavior and certain leadership styles, including transformational and transactional leadership. They defined feedback as enabling employees to obtain information about their skills and performance and how others evaluate them. A vignette describing both a transformational and a transactional leader was presented to 132
participants. The results reveal that transformational leadership style is positively associated with employees’ higher feedback-seeking intentions.

Toor and Ofori (2009) investigated the association between ethical leadership and the full range leadership model, employee outcomes, and organizational culture. They employed the survey method, distributing a questionnaire to senior executives and senior level managers in Singapore. The study measured the ethical leadership of the participants, determining whether these leaders had the characteristics of transformational, transactional, and laissez fair leadership. In addition, organizational culture was also measured by a survey questionnaire in this study. The results prove that ethical leadership is positively associated with all components of transformational leadership. In other words, the results of this study reveal that transformational leaders have almost the same behaviors and characteristics of ethical leadership that demonstrably constitute a good example for subordinates to follow.

Sparks and Schenk (2001) conducted both qualitative and quantitative method to examine the importance of transformation leadership. The participants were 736 female members from various multilevel marketing organizations (MLMs). The study emphasizes the impact of the transformational leadership between organization sponsors and organization members. The survey instruments measured transformational leadership behaviors, belief in a higher work purpose, job satisfaction, unit cohesion, and effort and performance of the members. The results reveal that transformational leadership has a positive impact on the relationship between the higher purpose of one’s work and job satisfaction, unit cohesion, and effort.
Law Enforcement and Leadership

Adebayo (2004) investigates the effect of perceived workplace fairness and transformational leadership on police work motivation in Nigerian police. A cross-sectional survey was given to 184 participants according to their rank in the Nigeria Police force. The study revealed that participants are more motivated when their perceived workplace fairness is high. Besides this, participants who believe that their superior officers exhibit transformational leadership behavior are more motivated compared to participants who report that their superior officers are low in exhibiting transformational leadership behavior.

Murphy and Drodge (2003) conducted an interview to examine the impact of transformational leadership in the Royal Canadian Mounted Police (RCMP) detachment. They interviewed 28 police officers in the RCMP and concluded that transformational leaders are effective in term of increasing levels of commitment, work satisfaction, and motivation among police officers.

Brunetto and Farr-Wharton (2005) investigate the effect of management practices, organization culture, resources, and accountability on the accomplishment of a policy in the Australian state police department. They employed both qualitative and quantitative research methods. This study throws attention to the consistency between the ascertained goals and beliefs, the resources and accountability in the process of implementing a new policy to be successful. The results reveal that the coherency between senior and lower managers plays a vital role in establishing goals and objectives of a new policy. In addition, this study proposes that if there is an inconsistency between written policy and other factors that are important in the process
of implementing the policy, first-level managers can use this condition to maintain their status quo as they have the power. Finally, this study suggests that the training related to changing the ascertained values should first be given to the senior management in order to establish a successful policy.

Densten (2003) examines the top level police officers’ leadership style in the Australian Police organization. The researcher studied stratified system theory, positing that task complexity affects the performance demand in any organization. According to the results the leader effectiveness and ability to motivate subordinates to exert extra effort changes according to the perception of each rank of senior officer. In other words, the perception of each senior officer’s leadership effectiveness and exerting extra effort shows some differences according to different ranks. Densten (2003) concludes that predictors of senior officers’ leadership changes depending on their rank. Secondly, the study revealed that leader effectiveness is related to followers being pleased with their leaders’ leadership behaviors.

Knowledge Management and Knowledge Sharing

Overview of Knowledge Management

The definition of knowledge management (KM) varies according to scholars and practitioners in different fields and areas of interest. In other words, different scholars in different fields define knowledge management with regard to their special perspectives and preferences. To illustrate the differences between these, Chen (2004) points out that the scholars accepting management theory orientation refer to knowledge as a process that causes competition among individuals and organizations. On the other hand,
scholars with in the management information system consider knowledge as an object that can be observed and managed in information systems based on computers.

Bailey and Clarke (2000) define KM as “How managers can generate, communicate, and exploit knowledge (usable ideas) for personal and organizational benefit” (p. 237). From a different viewpoint, O’Dell and Grayson (1998) define KM as “a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organizational performance” (p. 6).

According to Srikantaiah and Koenig (2000, p. 3), knowledge management is “a discipline that promotes an integrated approach to identifying, capturing, evaluation, retrieving, and sharing all of an enterprise’s information assets. These assets may include databases, documents, policies, procedures, and previously uncaptured expertise and experience of individual works.”

Grover and Davenport (2001) categorized knowledge management into three subtypes: knowledge generation, knowledge codification, and knowledge transfer. First, knowledge generation refers to the development of knowledge including knowledge acquisition. Second, knowledge codification structures knowledge as applicable and accessible. Finally, knowledge transfer explains the process of implementation of knowledge, from generation and codification to use.

Knowledge Sharing

Knowledge sharing constitutes the most important part of KM. The aim of sharing employees’ knowledge is to transfer their values into the organization recourses.
Knowledge sharing between individuals is explained by Ipe (2003) as "the process by which knowledge held by an individual is converted into a form that can be understood, absorbed, and used by other individuals" (p. 341). The term sharing refers to individuals who present their knowledge in a form that can be used by others in the organization. In addition, sharing includes a conscious action on the part of the individual which does not involve the intention of taking ownership of the knowledge; instead ownership of the knowledge belongs to both sender and recipient (Ipe, 2003). Knowledge sharing not only boosts individuals’ competency but also causes them to produce new knowledge (Sveiby, 2001).

Wah (2000) asserts that individuals who hoard knowledge generate a huge impediment in the process of KM. On the other hand, Goh (2002) explains that if economic competition exists in an organization, knowledge is equated with power, and it is natural that people should hoard knowledge.

As in the study of Lu, Leung, and Koch (2006), the factors that impact knowledge sharing will be categorized and investigated in this study along three subcategories: organizational, individual, and interpersonal factors.

Organization Culture and Knowledge Sharing

Al-Alawi, Al-Marzooqi, and Mohammed (2007) focus on the impact of factors caused by organizational culture on knowledge sharing among employees. Generally, the study examines the association between knowledge sharing and the effect of employees’ interpersonal trust, the quality of communication, the organizations’ information system, the reward system, and the organization’s structure and knowledge
sharing in an organization. The researchers used both survey methods and interviews in investigating staff working in different public and private organizations in Bahrain. The results revealed that trust, communication, information systems, rewards, and organization structure have positive associations with knowledge sharing in organizations.

McDermott and O’Dell (2001) investigate the cultural barriers against knowledge sharing, through the lens of cultural values such as visible and invisible dimensions. They claim that people in organizations that have a knowledge sharing culture believe that sharing knowledge is a natural thing instead of considering it as something to be forced. In addition, the study revealed that both subordinates’ expectations and managers’ considerations should be met by the organization’s core values. Finally, McDermott and O’Dell (2001) suggest that managers should be used effectively to encourage knowledge sharing among subordinates.

Yang (2007b) examines the impact of organizational culture and different types of leadership roles on knowledge sharing. Yang (2007b) employed both a pilot test and a cross-sectional study of quantitative data. Moreover, the author prepared the survey questionnaire by taking feedback and interviewing the participants about the results of the pilot test. The sample employees, those who had been working in the organization for more than six months, were drawn from nine international tourist hotels. A total of 1200 survey questionnaires were sent to the participants, and 499 of them were selected as usable replies. The results show that facilitating and mentoring roles are the most appropriate roles for a leader in building knowledge sharing systems in the organization. The study also reveals that the environment of individuals' working groups
is so important to the creation of an organization culture that causes collaboration in knowledge sharing.

Lin (2006) investigates how organizational support affects the facilitation of knowledge sharing in an organization in terms of individuals’ perception of innovation characteristics about their organization. This study examines individuals’ perceived relative advantage and compatibility as their innovation characteristics. This study also develops a model by following the philosophy of innovation diffusion theory. The researcher employed quantitative data by sending a survey questionnaire to the senior executives in large Taiwanese organizations. 154 respondents replied to the survey questionnaire among 720 senior executives. The results revealed that organizational support has a statistically positive impact on the organizational intention to facilitate knowledge sharing.

Yang (2007a) measures the impact of knowledge sharing and organizational learning on organizational effectiveness. Yang employed quantitative data by sending questionnaires to 1200 employees working in different positions in international tourist hotels in Taiwan. This study concludes that knowledge sharing has an impact on organizational learning, which in turn increases organizational effectiveness.

Zmud and Lee (2005) investigate the impact of external motivators, organizational climate, and social-psychological forces on individuals’ intention about knowledge sharing. Zmud and Lee (2005) follow the theory of reason action (TRA) for this research study. The researchers conducted interviews and reviewed literature to define the variables for the external motivators. Consequently, economics, covering rewards and promotion, and social psychology, covering reciprocal relationships and
sense of self-worth, were identified as external motivators. Besides this, fairness, affiliation, and innovativeness were identified as organizational climate variables. The researchers conducted a self-administrated field survey of 154 managers working in 27 Korean organizations. The results reveal that external motivators, organizational climate, and social-psychological forces have an impact on individuals’ intentions about knowledge sharing.

Individual and Interpersonal Factors and Knowledge Sharing

Foos, Schum, and Rothenberg (2006) investigate the factors that have an impact on transferring tacit knowledge between two partners. The study employed both qualitative and quantitative data. Foos et al. (2006) collected qualitative data by interviewing thirteen individuals from three different companies in the US. Quantitative data was collected by conducting an online survey for project and product managers who were involved with 39 projects that used external technology in five different companies. The authors conclude that trust, early involvement, and due diligence have an impact on a person’s expectations about the activeness of technology transfer and tacit knowledge transfer.

Gray and Meister (2004) searched for the benefits of accessing others’ knowledge and determined in which circumstances individuals tend to reach each other’s experiences, views, and approaches. The model of knowledge sharing was used to test the hypotheses for this research. The researchers employed a cross-sectional survey instrument. Gray and Meister (2004) conducted a pretest and pilot study before sending a questionnaire to 1009 employees by mail. A total of 313 cases were accepted
as usable data for this research. The authors concluded that individuals’ level of knowledge sourcing behavior changes depending on their perceived work demand and their willingness to develop their skills and abilities.

Ipe (2003) investigated how knowledge sharing happens between individuals in an organization. The author develops a model of knowledge sharing to explain some factors that have an impact on individuals' knowledge sharing in the organization. He analyzes the literature related to knowledge management and sharing in organizations to create a framework to define that dominant factors affecting individuals' knowledge sharing. This study drew out four factors having a crucial impact on knowledge sharing between individuals.; “the nature of knowledge,” that is whether the knowledge is tacit or explicit and valuable, “motivation to share,” that is whether knowledge is used as a power, reciprocity,” that is the opportunities to share knowledge,” and “the culture of the work environment.”

Knowledge sharing was examined in terms of the impact of individual, interpersonal, and organizational factors by the study of Lu, Leung, and Koch (2006). The research had two studies. Study 2 was replicated from Study 1 by adding the effect of organizational support on knowledge sharing. Lu et al., (2006) employed quantitative data by conducting a survey in China. Both MBA part-time students and mid-level employees from five firms were selected as participants for this study. The results reveal that greed has a negative impact on knowledge sharing, whereas self-efficacy has a positive impact. In addition, organizational support increases knowledge sharing by enabling organizations to use more information technologies for explicit knowledge.
Moreover, co-worker collegiality was found to have an indirect positive effect on knowledge sharing.

Lin and Lee (2004) investigate the factors that have an impact on senior managers’ behaviors to encourage the intention of knowledge sharing. The researchers followed the theory of planned behavior to develop a research model. The authors sent the survey questions to 720 randomly selected senior managers of organizations among 2000 firms in Taiwan. A total of 154 participants’ responses were assessed as acceptable. The researchers conclude that there is a strong relationship between the intentions of senior managers’ encouragement about knowledge sharing and their overall knowledge sharing behaviors. The results also reveal that senior managers’ attitudes, subjective norms, and perceived behavioral control towards knowledge sharing are associated with their intentions to encourage knowledge sharing.

Connelly and Kelloway (2003) examine the encouraging and discouraging factors of knowledge management and sharing in an organization. The authors specifically emphasize the relationship between the employees’ perception of their management support for knowledge sharing, the social interaction of their organizations, their organization’s knowledge sharing technologies, demographic variables of the employees, and employees’ perception of knowledge sharing culture. The researchers conducted a survey in Canada. The participants of the study included both students and non-students. The researchers conclude that both employees’ perceptions of management’s support for knowledge sharing and positive social interaction are positive indicators of their perception of knowledge sharing culture.
Ipe (2004) points out the importance of knowledge sharing. He examines the factors that motivate or hinder knowledge sharing in an organization. The study identified four motivators for knowledge sharing. These are “a feeling of being valued,” “informal relationships with team members,” “commitment to the project” and “sharing climate within the team.” In addition, this study defines five impediments on the issue of knowledge management. These are “lack of shared contexts,” “tacit nature of knowledge,” “dependence on individuals’ abilities to manage the sharing process,” “cost of sharing” and “project setup process and structure.” Ipe (2004) conducted this case study in an information technology services company. The results reveal that individuals’ willingness to share knowledge increased when other team members presented them as a contributor to the organization.

Law Enforcement and Knowledge Sharing

Knowledge management plays a crucial role in policing as it deals with the process of creating, sharing, and keeping the knowledge. Knowledge has a different meaning in policing due to the different perspectives between the theoretical knowledge view and street-level knowledge view. The theoretical perspective is associated with people who have academic education and work in high level positions in organizations. Their main sources of knowledge are IT systems and different types of reports (Holgersson, Gottschalk, & Dean, 2008). Additionally, high ranking officers are not confronted with face-to-face problems as street level officers are (Reeuss-lanni, 1993). These differences affect the knowledge exchange between theoretical and street level perspectives negatively. At this point, Holgersson et al. (2008) suggests that the opinion
and value of street-level officers should be thoroughly integrated into the organization to create an effective knowledge sharing environment.

The study of Berg, Dean, Gottschalk, and Karlsen (2008) examined the effect of management roles on knowledge sharing in police investigations. Six management roles were defined as independent variables in this research. The researchers conducted a survey measuring the management roles and knowledge sharing attitudes of police officers. The sample was drawn from police officers dealing with criminal investigations in Norway. The researchers concluded that among the six management roles, only the networking role, meaning the managers involved in personnel, organizational, and financial matters to gain their subordinates' acceptance, have a stronger impact on knowledge sharing in police organizations.

Glomseth, Gottschalk, and Sæther (2007) performed an empirical study related to performance in the police investigation unit. They directed a survey instrument to senior investigations police officers working in charge of criminal investigations in Norway. The study measured the impact of occupational culture on the performance of the police investigation unit through knowledge sharing. Occupational culture was divided into four subsections: team culture, planning culture, theoretical culture, and traditional culture. The results prove that only team culture has a significant impact on both knowledge sharing and performance in the police investigation unit.

The Relationship between Leadership Styles and Knowledge Sharing

Bryant (2003) states that knowledge management is based on three major components: creating knowledge, sharing knowledge, and exploiting knowledge. Bryant
(2003) proposes that leaders an important impact on the process of these three major components. This is because leaders play the central role to create a knowledge sharing climate that respects others’ ideas in the organizations.

Nonaka and Takeuchi (1995) investigate firms’ knowledge creation, including tacit and explicit knowledge, within four categories: socialization, externalization, internalization, and combination. Socialization refers to the experiences that are shared among others. Externalization refers to tacit knowledge being transferred to explicit knowledge. Internalization refers to explicit knowledge that is transferred to tacit knowledge. For example, individuals obtain experiences from others and then make them internal. The last one, combination, refers to explicit knowledge that represents an amalgam of input from different knowledge sources.

According to Bollinger and Smith (2001), leaders should concentrate on three major issues. First, leaders should create a culture that values knowledge, knowledge sharing, and encourage its people to be reliable to their organizations. Second, leaders should focus on their line supervisors, especially their training, and give enough delegation for them to reach a desired culture. Third, leaders should create an appropriate knowledge structure system that supports knowledge sharing.

Schyns and Sanders (2007) investigate the relationship between the personality of followers and their perception of transformational leadership. The study deployed emotionality, extraversion, openness for experience, agreeableness, conscientiousness, and honesty as personality factors to measure the characteristics of followers. Followers from three different companies and students from a Dutch university were selected as participants for the study. Schyns and Sanders employed a multifactor leadership
questionnaire (MLQ) to collect data. The results reveal that followers’ having similar characteristics with transformational leaders positively impacts their perceptions about transformational leadership.

The leaders’ effort to meet the needs of followers can be explained by Maslow’s (1948) hierarchy of needs theory. Maslow (1943) arranged the needs of individuals into 5 categories. The first need is physiological, such as air and water to live. The second need is safety, such as safety from murder and assault. The third need is belongingness and love, such as family and friends. The fourth is esteem, where a person is valued for having his or her own status and confidence. The fifth need is self-actualization. According to Maslow, individuals can be motivated to reach higher-level needs before satisfying these previous needs.

According to Gartner research, there are three kinds of knowledge workers. The first is the task-based knowledge worker, such as a waiter. The second is the skill-based knowledge worker, such as a programmer. The last one is the innovation-focused knowledge worker, such as a composer. Thus, management structure should be designed to motive different kinds of knowledge workers (Morello & Caldwell, 2001).

Pauleen and Mason (as cited in Ribiere & Sitar, 2003) conducted a survey to figure out the biggest barriers hindering the successful implementation of knowledge management among 46 public and private KM practitioners in New Zealand. The results reveal that organizational culture with 45% of the respondents and leadership with 22% of the respondents are major barriers toward to the successful implementation of KM. However, technology was not found as a main barrier toward to implementation of knowledge management. At this point Davenport and Prusak (1998) point out that
investing much of time, money and effort on the technology does not solve the knowledge problem in an organization. Other factors besides investment in technology, such as organizational culture and management, should be considered in order successfully to implement knowledge management.

According to Ribiere and Star (2003), organization culture plays a crucial role in increasing knowledge sharing in the organization. In the same way, leadership plays a critical role in shifting organization culture towards knowledge and learning. In addition, Ribiere and Star (2003) point out that since leaders have motivation, belief, and values, they build their organization structure based on these components. Moreover, they recruit people compatible to the organization’s culture and values.

Leading knowledge workers in a knowledge organization relays on persuasion, interactive dialogue, and intellectual values. Leaders should have the ability to build reliance and engagement. From the perception of knowledge workers, leaders maintain knowledge and learning motion. They also reward their co-workers’ engagement with knowledge and learning activities (Burtha, 2001).

Nowadays, leaders are aware of the fact that they are no longer the major source of knowledge. In addition, they realize that knowledge workers play a crucial role in terms of their providing a knowledge source. Thus, leaders encourage their subordinates to participate in knowledge sharing (Bukowitz, & Williams, 1999).

García-Morales, Lloréns-Montes, and Verdú-Jover (2007) examine the association among leadership roles and knowledge, innovation and the impact of transformational leadership on organization performance. After reviewing the literature, the researcher developed a theoretical model, which analyzes the associations
theoretically and empirically. The researchers directed a survey to chief executive officer (CEOs) among 900 organizations in Spain. They got 408 valid respondents. The results revealed that transformation leadership has a positive impact on slack knowledge, absorptive capacity, tacit knowledge, organizational learning, and innovation.

The relationship among transformational leadership, organizational position, and knowledge management was studied by Crawford (2005). The author followed the theory of transformational leadership. The author conducted a survey of 1046 students registered in classes in a graduate liberal studies degree program. He utilized the Knowledge Management Inventory (KMI) and the multifactor Leadership Questionnaire 5-S (MLQ). The study concluded that there was a strong association between transformational leadership and knowledge management behaviors. Moreover, organization position was found to be an important factor in knowledge management.

The study of Herold, Fedor, Caldwell, and Liu (2008) investigated the association between transformational and change leadership and followers’ commitment to particular change in an organization. The authors distinguished the differences between transformational and change leadership with a strong definition. Data were collected from 343 employees working in 30 different organizations in United States. The sample covered 30 different organizations. Two surveys, the Organizational Change survey and the Personal Change survey were employed in this study. The results reveal that transformational leadership is associated with change commitment when followers evaluate change leadership as low. However, when change leadership is reported as
high and job impact is low, transformation leadership is not related to change commitment.

Loke (2001) studied the effectiveness of leadership behaviors on job satisfaction, productivity and organizational commitment. The researcher directed a survey to registered nurses in an acute hospital in Singapore. The study revealed that 29% of the job satisfaction of nurses is related to leadership behaviors.

Pan and Scarbrough (1999) examine the knowledge sharing process of an international organization, Buckman Laboratories. They investigated the relationship between knowledge management and organizational context. They evaluated the knowledge management subject in light of the socio-technical perspective. The study focused on several factors related to the socio-technical perspective in knowledge management. The first one was the relationship between social and informational technologies. Second was the employee’s compatibility with explicit and tacit knowledge. Third was the consistency of social and information technologies. The authors conducted an empirical study including observations and interviews. They concluded that when shared vision was provided in an organization, people were motivated by its power. Moreover, the study also showed the importance of having shared vision in terms of impact on knowledge sharing in the organization.

Politis (2002) examined the impact of transformational and transactional leadership styles on knowledge acquisition and organization performance. The researcher employed quantitative data by conducting a survey with 280 self-managing employees. The sample was drawn from self-managing teams working in a large, high-technology manufacturing organization in Australia. A total of 239 participants
responded to the survey. The study concluded that transformational leadership has a statistically positive effect on the knowledge acquisition of the employees. However, the relationship between knowledge acquisition and performance was negative.

Srivastava, Bartol, and Locke (2006) examined the association between empowerment leadership, meaning leaders’ sharing their power by giving more responsibility to their employees, and team performance. The study also investigated the effect of empowerment leadership on knowledge sharing. The researchers gave the survey to 550 management team managers working in a chain of medium size hotels. A total of 498 participants responded to the survey. They concluded that empowerment leadership has a positive impact on knowledge sharing. Moreover, the results revealed that empowerment leadership also has an indirect effect on team efficacy.

Summary

This chapter reviewed literature about leadership, knowledge management and sharing, and their effects on individuals’ willingness to exert extra effort. The previous research studies done in the vein of the present study revealed that leadership plays a crucial role in an organization. In addition, the effect of transformational, transactional, and laissez-fair leadership either on individuals' knowledge sharing or on individuals’ willingness to exert extra effort was systematically examined. The following chapter examines the research design and the methodology.
CHAPTER III

METHODOLOGY

Introduction

This study will investigate the relationship between police officers’ perceptions of their leaders’ leadership styles and their impact on police officers’ willingness to exert extra effort through knowledge sharing in the Riot Unit of the Turkish National Police (TNP) in Ankara, Turkey. The majority of leadership studies deal with the leadership effectiveness and its effect on knowledge management. However, the working environments of individuals (especially those working, in police organizations) are not considered to be important factors affecting knowledge management and sharing, and, in turn, individuals’ willingness to exert extra effort. Considering the different working environments of individuals, this research employs a quantitative survey design to understand officers’ perceptions about their leaders’ leadership styles and their effect on officers’ willingness to exert extra effort. A mail-in survey method is used for this study to guarantee the anonymity of participants. Furthermore, this research was designed as a cross-sectional survey as the data will be collected in the same time (Creswell, 2008).

The present chapter starts with the proposed model and restatement of the research questions. After that, the construction of the hypotheses is discussed. The next section explains operational definitions of the variables including the structure type of the independent and dependent variables and instruments and the structure type of the surveys. The Multifactor Leadership Questionnaire and Knowledge Sharing Questionnaire, and their reliability and validity, are discussed. The final section presents
data collection and method of analysis, including a description of the population, sampling method, and method of analysis, respectively.

Proposed Model

As shown in Figure 3.1, it is proposed that police managers’ transformational, transactional, and laissez-faire leadership styles are associated with line police officers’ knowledge sharing. In addition, it is expected that police managers’ leadership styles have a direct effect on line police officers’ willingness to exert extra effort and an indirect
effect over their knowledge sharing. In order to better understand this concept, this study will investigate sixteen hypotheses under three research questions.

Research Questions and Hypotheses

RQ: 1. How do line police officers’ perceptions about their managers’ leadership styles affect officers’ willingness to exert extra effort in providing better security?

Some studies (Adebayo, 2004; Murphy & Drodge, 2003; Levy, Cober & Miller, 2002) illustrate that transformational leadership has a positive effect on subordinates’ motivation and willingness to exert extra effort. In order to find the answer, the researcher investigated the following hypotheses related to the above research question:

H₀₁: There is no relationship between police officers’ perceptions about their managers’ transformational leadership style and officers’ willingness to exert extra effort in the Riot Unit.

H₁: There is a relationship between police officers’ perceptions about their managers’ transformational leadership style and officers’ willingness to exert extra effort in the Riot Unit.

H₀₂: There is no relationship between police officers’ perceptions about their managers’ transactional leadership style and officers’ willingness to exert extra effort in the Riot Unit.

H₂: There is a relationship between police officers’ perceptions about their managers’ transactional leadership style and officers’ willingness to exert extra effort in the Riot Unit.

H₀₃: There is no relationship between police officers’ perceptions about their managers’ laissez-faire leadership style and officers’ willingness to exert extra effort in the Riot Unit.

H₃: There is a relationship between police officers’ perceptions about their managers’ laissez-faire leadership style and officers’ willingness to exert extra effort in the Riot Unit.
H04: There is no relationship between officers’ age and their willingness to exert extra effort in the Riot Unit.

H4: There is a relationship between officers’ age and their willingness to exert extra effort in the Riot Unit.

H05: There is no relationship between officers’ education level and their willingness to exert extra effort in the Riot Unit.

H5: There is a relationship between officers’ education level and their willingness to exert extra effort in the Riot Unit.

H06: There is no relationship between officers’ experience and their willingness to exert extra effort in the Riot Unit.

H6: There is a relationship between officers’ experience and their willingness to exert extra effort in the Riot Unit.

H07: There is no relationship between officers’ gender and their willingness to exert extra effort in the Riot Unit.

H7: There is a relationship between officers’ gender and their willingness to exert extra effort in the Riot Unit.

RQ: 2. How do line police officers’ perceptions about their managers’ leadership styles affect officers’ knowledge sharing in providing better security?

Several studies (Verdu-Jover, 2008; Crawford, 2005; Politis, 2002) proved that transformational leadership has a positive relationship with knowledge sharing. In other words, subordinates’ willingness to share their knowledge increases when their leaders’ employ the transformational leadership style. On the other hand, as in the study of Politis (2002), the transactional leadership style is negatively associated with knowledge acquisition and sharing. In addition, Crawford (2005) points out that there is a negative relationship between knowledge management behavior and laissez-faire leadership. In light of the literature review, the following hypotheses are examined to answer this research question:
H08: There is no relationship between police officers’ perceptions about their managers’ transformational leadership style and officers’ knowledge sharing in the Riot Unit.

H8: There is a relationship between police officers’ perceptions about their managers’ transformational leadership style and officers’ knowledge sharing in the Riot Unit.

H09: There is no relationship between police officers’ perceptions about their managers’ transactional leadership style and officers’ knowledge sharing in the Riot Unit.

H9: There is a relationship between police officers’ perceptions about their managers’ transactional leadership style and officers’ knowledge sharing in the Riot Unit.

H010: There is no relationship between police officers’ perceptions about their managers’ laissez-faire leadership style and officers’ knowledge sharing in the Riot Unit.

H10: There is a relationship between police officers’ perceptions about their managers’ laissez-faire leadership style and officers’ knowledge sharing in the Riot Unit.

H011: There is no relationship between officers’ age and their knowledge sharing in the Riot Unit.

H11: There is a relationship between officers’ age and their knowledge sharing in the Riot Unit.

H012: There is no relationship between officers’ education level and their knowledge sharing in the Riot Unit.

H12: There is a relationship between officers’ education level and their knowledge sharing in the Riot Unit.

H013: There is no relationship between officers’ experience and their knowledge sharing in the Riot Unit.

H13: There is a relationship between officers’ experience and their knowledge sharing in the Riot Unit.

H014: There is no relationship between officers’ gender and their knowledge sharing in the Riot Unit.
H14: There is a relationship between officers’ gender and their knowledge sharing in the Riot Unit.

RQ: 3. How does line police officers’ knowledge sharing affect their willingness to exert extra effort in providing better security?

As in the study of Garcia (2008), transformational leadership increases tacit knowledge, which in turn increases motivation and extra effort. Similar to this result, the following hypotheses are examined:

H₀₁₅: There is no relationship between police officers’ knowledge sharing and officers’ willingness to exert extra effort in the Riot Unit.

H₁₅: There is a relationship between police officers’ knowledge sharing and officers’ willingness to exert extra effort in the Riot Unit.

H₀₁₆: The relationship between police officers’ perceptions about their managers’ leadership styles and officers’ willingness to exert extra effort in the Riot Unit is not mediated by officers’ knowledge sharing.

H₁₆: The relationship between police officers’ perceptions about their managers’ leadership styles and officers’ willingness to exert extra effort in the Riot Unit is mediated by officers’ knowledge sharing.

**Operational Definitions of Variables**

This study has three independent variables representing police managers’ leadership styles: transformational, transactional, and laissez-faire. Besides these, there are two dependent variables: police officers’ knowledge sharing and their willingness to exert extra effort. The demographic variables are the respondents’ age, education, service years in the TNP, and gender.
Independent (Exogenous) and Control Variables

**Leadership Styles (Transformational, Transactional, Laissez-Faire)**

The exogenous (independent) variable of police officers’ perceptions of their leaders’ leadership styles was measured by using Bass and Avolio’s (2000) Multifactor Leadership Questionnaire (MLQ, Form 5X).

Demographic Variables

*Age:* Respondents’ age was measured at the interval ratio level; the ages ranged from 20 to 30 years.

*Gender:* Respondents’ gender was coded as 0=male, 1=female

*Education:* Respondents’ education level was categorized as 1 = high school, 2 = a two year-college, 3 = university, 4 = masters.

*Years of Service:* Respondents’ service years in the Turkish National Police organization was measured at the interval ratio level, and coded numerically.

Dependent (Endogenous) Variables

**Extra Effort**

One of the dependent variables is officers’ willingness to exert extra effort. Extra effort refers to the actions taken by officers who perceive their leaders as motivators and therefore have the desire to succeed and do more than is expected of them. Extra effort is measured by one scale with three questions in the Multifactor Leadership Questionnaire (MLQ, Form 5X) as 0 = not at all, 1 = once in a while, 2 = sometimes, 3 = fairly often, and 4 = frequently or always.
Another dependent variable of this study is knowledge sharing. Knowledge sharing refers to the process whereby followers share their explicit and tacit knowledge in the organization. Knowledge sharing is defined as "the act of making knowledge available to others within the organization" (Ipe, 2003, p. 341). Sveiby and Simons’ (2002) questionnaire, which has 20 items under four dimensions, was employed to measure the knowledge sharing of police officers working in the Riot Unit of the TNP. Sveiby and Simons' (2002) used a 5-point Likert scale, containing the values 5 = strongly agree, 4 = agree 3 = neutral, 2 = disagree, and 1 = strongly disagree. For this study, the Likert scale was altered in order to be compatible with the MLQ questionnaire, resulting in the following values: 4 = strongly agree, 3 = agree, 2 = neutral, 1 = disagree, and 0 = strongly disagree.

As the questionnaire is close-ended, the respondents were provided multiple choice answers. According to Fowler (1993), closed-ended questions are better ways to avoid respondents' biases related to their different perceptions. Additionally, he states that preparing closed-ended question will enable each respondents with the same perceptions related to the questions.

Instrumentation

In order to examine the relationships between Turkish Police Officers' perceptions of their leader's leadership styles and officers' willingness to exert extra effort through officers’ knowledge sharing, a survey package including the short form of the Multifactor Leadership Questionnaire (MLQ5X-Short), a demographic questionnaire,
and knowledge sharing questionnaire were employed. Police officers’ perceptions of their leader's leadership styles were measured by the MLQ5X-Short questionnaire. The knowledge sharing questionnaire was used to measure the knowledge sharing of the police officers working in the Riot Unit of Turkish National Police in Ankara. Finally, the demographic questionnaire was used to get information about the demographic characteristics of the officers participating in the survey.

Both the knowledge sharing and the MLQ5X-Short questionnaires incorporate clear language that any ordinary law enforcement officer could answer without any confusion. In addition, both questionnaires were designed to serve the researcher in finding a correlation between the impact of leadership on officers’ willingness to exert extra effort through knowledge sharing.

Multifactor Leadership Questionnaire

The MLQ was originally developed by Bass (1985) and later revised in the MLQ-5X, which covers transformational, transactional, and laissez-faire leadership models. The Multifactor Leadership Questionnaire (MLQ, Form 5X) uses the 5-point Likert scale (0 = not at all, 1 = once in a while, 2 = sometimes, 3 = fairly often, and 4 = frequently or always). So far, the MLQ has been translated and implemented in 30 languages, including Turkish (Bass & Avolio, 2000).

The MLQ-5X includes 45 questions of which 36 measure leadership styles. Extra effort, effectiveness, and satisfaction are measured by the other nine questions. Among the leadership styles, transformational leadership is measured by 20 questions with five leadership behavior dimensions: idealized influence (attributed) idealized influence
behavior), inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Avolio, 2000). The characteristics and the item numbers of the transformational, transactional, and laissez-faire leadership styles in the MLQ-5X Form are explained next.

*Idealized influence (attribute):* Leaders who have the attribute of idealized influence have a certain charisma. Their followers are affected by their aspiration and followers want to emulate their leader. A leader with transformational characters is "envisioning, confident, and sets high standards for emulation" (Bass & Steidlmeier, 1999, p. 2). The leaders' idealized influence attribute is measured by Questions 6, 14, 23, and 34 on the MLQ-5X form.

*Idealized influence (behavior):* A leader who exhibits idealized influence behavior "talks about his or her values and beliefs, has a strong sense of purpose, and has a collective sense of mission" (Bass & Avolio, 2004, p. 97). Leaders' idealized influence behavior is measured by Questions 6, 14, 23, and 34 on the MLQ-5X form.

*Inspirational motivation:* A leader who has the character of inspirational motivation "provides followers with challenges and meaning for engaging in shared goals and undertakings" (Bass & Steidlmeier, 1999, p. 2). Leaders' inspirational motivation is measured by Questions 9, 13, 26, and 36 on the MLQ-5X Form.

*Intellectual stimulation:* Leaders who have the character of intellectual stimulation "stimulate their followers' effort to be innovative and creative" (Bass and Avolio, 2004, p. 98). Leaders' intellectual stimulation is measured by Questions 2, 8, 30, and 32 on the MLQ-5X form.

*Individual consideration:* Leaders who have the character of individual
consideration evaluate each subordinate as an individual. These kinds of leaders "not only recognize and satisfy current needs of their subordinates but also to arouse and elevate those needs in an attempt to develop subordinates further" (Bass, Waldman, Avolio, & Bebb, 1987). Leaders` individual consideration is measured by Questions 15, 19, 29, and 31 on the MLQ-5X form.

Besides that, the transactional leadership style is measured by 12 questions with three dimensions, contingent reward, management by exception (active), and management by exception (passive) (Bass & Avolio, 2000).

Contingent reward: Leaders who have the characteristics of contingent reward motivate their followers with promises, rewards, and threats as well. Such leaders "either make assignments or they may consult with followers about what is to be done in exchange for implicit or explicit rewards and the desired allocation of resources" (Bass & Steidlmeier, 1999, p. 3). Leaders` contingent reward is measured by Questions 1, 11, 16, and 35 on the MLQ-5X form.

Management by exception (active): Leaders who engage in active management by exception always monitor subordinates` motivation and, if needed, make corrections to any mistakes. Such leaders “focus attention on and keep track of mistakes” (Bass and Avolio, 2004, p. 98). These characteristics of leaders` are measured by Questions 4, 22, 24, and 27 on the MLQ-5X form.

Management by exception (passive): Leaders who engage in passive management by exception "wait passively for followers’ mistakes to be called to their attention before taking corrective action with negative feedback or reprimands (Bass &
Steidlmeier, 1999, p. 2). This characteristic of leaders is measured by Questions 3, 12, 17, and 20 on the MLQ-5X form.

Furthermore, laissez-faire leadership is measured by one scale with four questions (Bass & Avolio, 2000). Laissez-faire leaders avoid taking part in decision making. They prefer not to take responsibility and not to interfere in the activities of their followers. Moreover, they “are absent when needed” (Bass and Avolio, 2004, p. 99). This characteristic of leaders is measured by Questions 5, 7, 28, and 33 on the MLQ-5X form.

Knowledge Sharing Questionnaire

The Knowledge Sharing Questionnaire was adapted by Sveiby and Simons’ (2002) questionnaire, slightly revised in order to be compatible with the characteristics of the Riot Unit of the TNP. Sveiby and Simons (2002) carried out several stages in the process of preparing the questionnaire. First of all, the literature was reviewed by three panels of experts. Secondly, the total of 120 items were distributed to groups in three settings, including a university research centre staff (n = 128), research and development teams in Australian private sector firms (n = 213), and a government-based expert system development teams. After conducting a factor analysis and experimental testing, these items were reduced to fifty. Finally, the best items were selected for the pilot test and the researchers decided to retain only 20 items for the final instrument.

The Knowledge Sharing Questionnaire used in this study measures knowledge sharing of police officers with 20 questions under four dimensions:
Work group support (WGS) refers to the attitudes and behaviors of those in the participants` nearest work group. Work group support is measured by Questions 1, 2, 3, 4, and 5 on the Knowledge Sharing Questionnaire.

Immediate supervisor (IS) refers to participants` thoughts about their immediate supervisors. That item is measured by Questions 6, 7, 8, 9, and 10 on the Knowledge Sharing Questionnaire.

Organizational culture (OS) refers to the organizational culture outside of the participants` immediate work group and the behavior of leaders. This item is measured by Questions 11, 12, 13, 14, and 15 on the Knowledge Sharing Questionnaire.

Employee attitude (EA) refers to the participants` own attitude toward sharing knowledge in the organization. This item is measured by Questions 16, 17, 18, 19, and 20 on the Knowledge Sharing Questionnaire.

Validity and Reliability of the Multifactor Leadership Questionnaire 5X Form and Knowledge Sharing

Kirk and Miller (1986) categorized three kinds of reliability in quantitative research. One of them refers to the measurement that remains the same even if the measurement is repeated. The second one refers to the measurement that remains stable over time. The last one refers to the measurement that gives similar results in a defined timeline. In this respect, Avolio and Bass (2004, p. 34) point out that “the latest version of the MLQ, Form 5X, has been used in nearly 300 research programs, doctoral dissertations and master's theses around the globe in the nearly ten years between 1995 and 2004.”
On the other hand, Golafshani (2003) explains validity as how accurately the research measures the intended things or how truly the instrument measures the research object. Several studies (Howell & Higgins, 1990; Gellis, 2001) illustrate that the reliability and validity of the Multifactor Leadership Questionnaire is high.

After developing the first version of the Multifactor Leadership Questionnaire, MLQ5R, by Bass (1985), the MLQ was revised several times by Bass and Avolio. The reason for the revision of the early MLQ was the strong criticism of MLQ5R’s validity. Hunt (1991), Smith and Peterson (1988), and Yukl (1994) are among the scholars who criticized the early version of the MLQ. They stated that the earlier version of the MLQ had inadequate discriminant validity in terms of the factors that comprise the survey, which included both behavioral and impact items in the same survey scales. As a consequence, in response to the criticisms to the early version of MLQ 5R, the MLQ 5R was revised, resulting in the MLQ 5X. Likewise, the criticisms of the MLQ 5X required a revision of the MLQ 5X, resulting in the development of the MLQ 5X-Short Form. Avolio and Bass (2004, p. 43) stated that "refinements to these leadership factors do not negate the theoretical relevance or the significance of the original 6-factor model. Rather, they represent and attempt to define more precisely the constructs." Avolio and Bass (2004) tested this new version for the MLQ Form 5X for validation, calling it the full range leadership model.

The original theory of Bass (1985) included four transformational and two transactional leadership factors. After that, Bass and his colleagues extended the theory according to the results of the studies implemented between 1985 and 1990. The current full range leadership theory, used in the MLQ (Form 5X), has 9 single-order factors,
including 5 transformational leadership factors, 3 transactional leadership factors, and 1 non-transactional laissez-faire factor (Antonakis, Avolio, & Sivasubramaniam, 2003).

Several studies were implemented to examine the validity and reliability of the MLQ 5X. For example, Antonakis, Avolio, and Sivasubramaniam (2003) focused on the validity and reliability of the MLQ5X Short Form. Antonakis et al. (2003, p. 262) investigated whether "the current version of the MLQ (Form 5X) instrument reliably assess[es] the nine factors proposed by Bass and Avolio (1997)." To this end, they carried out a two part study. The first study consisted of 3,368 male and female participants. Among the participants, the number of males was 2289 while the number of females was 1079. Analyses were conducted using same-gender leader–follower data to avoid variation in terms of differences in gender. The results of Study 1 showed that the value of the comparative fit index (CFI) was .901 and the value of root mean square error of approximation (RMSEA) was .036. The 9-factor model indicated a best fit when female and male rater samples were tested separately. The factor-level data were used in the second study among 18 independently gathered samples (N = 6525 raters). The researchers grouped the studies according to the contexts having similar conditions. The contextual factors included environmental risk, leader–follower gender, and leader hierarchical level. The results of the confirmatory factor analysis indicated that the RMSEA value was below the upper limit of .08 and the CFI value was above .90. The results indicated that the nine factor model represented the data well.

Moreover, the researcher conducted a reliability analysis to measure the internal consistency of the MLQ5X Short Form. Internal consistence reliability refers to “whether or not a test or a scale assesses a single construct” (Wasik, 1999, p. 527). It is
expected that all items in the index should have a correlation with each other. In this point, Strickland (1999) explains that “alpha or internal consistency reliability is simply a measure of the homogeneity of items on an instrument, or an average correlation of the questionnaire’s items with each other” (p. 4). In other words, the more homogeneity the items have, the more reliable the instrument is in terms of internal consistency. Cronbach’s alpha reliability coefficient (α) was used to measure the reliability of the items in the MLQ5X Short Form questionnaire. According to Nunnaly (1978), a score of .70 or above is enough for Cronbach’s alpha to assume that each items in the instrument are closely related to each other. In this study, the scores of Cronbach’s alpha are .94, .67, .70, and .82 for the variables of transformational leadership, transactional leadership, laissez-faire leadership, and officers’ willingness to extra effort, respectively.

Apart from MLQ form 5X, the Knowledge Sharing Questionnaire was tested by Sveiby and Simons (2002) for reliability and validity. The Cronbach’s alpha value of the four scales in the Knowledge Sharing Questionnaire were .89, .85, .88, and .81 for organizational culture, immediate supervisor, employee attitude, and work group support, respectively. These scores point to a very high reliability. In addition, the Knowledge Sharing Questionnaire was allowed access to public and private organization between 1999-2001. In this period, the instrument was not changed, and 8277 responses were stored in the database. In addition, the researcher conducted a reliability analysis to measure the internal consistency of the Knowledge Sharing Questionnaire. The Cronbach’s alpha score of .93 indicated a high internal consistency reliability for the Knowledge Sharing Questionnaire.
Data Collection

Population

The population of this study is police officers working in the Riot Unit of the Turkish National Police (TNP) in Ankara, Turkey. The TNP has about 200,000 personnel, 185,000 of which are sworn personnel. The TNP is responsible for providing public security, preserving the public from crimes, and investigating cases of criminal activity. The police in Turkey have the right to carry short and long barrel light firearms in order to fight crime (Karakiliç, 2007).

The Turkish National Police has two structural types: centralized and provincial. The General Directorate of Security, which is a central structure for the TNP, is located in the capital, Ankara. The General Directorate of Security is directed by the General Director of Security, who is appointed by the Prime Minister. The General Director of Security is accountable to the Prime Minister and the Minister of the Interior (Ozcan & Gultekin, 2000). The centralized structure of the TNP has 32 divisions, including the security division, the information division, and the foreign relations division. Each division is responsible for specific given tasks is directed by a first degree chief of police. The General Directorate of Security sets up policies and regulations that are implemented in each center’s divisions and provincial security departments (Cerrah, 2006).

Apart from the General Directorate of Security, Turkey has 81 provinces. Each province has its own security directorates led by a first degree chief of police. All provincial security departments work under the authority of city governors who are appointed by the Prime Minister. The city governors are the officials at the top of the city
structure. Even if the provincial security departments work under the authority of city governors, the General Directorate of Security has full authority over all provincial security departments. All of the provincial security department personnel are appointed by the General Directorate of Security (Ozcan & Gultekin, 2000).

The TNP has followed two kinds of recruitment processes while selecting line police officers. First, people who graduated from high school can be a line police officer after completing two years of education in a police school. Another option for people who have graduated from a university is to join this organization after he/she completes eight months of education in police school.

Unlike in the recruitment of line police officers, the TNP has special processes for training candidates who wish to become ranked police officers. In order to become a ranked police officer, the candidate must attend the four-year Police College after graduating from any middle school. After graduating from the Police College, the candidate must attend the four-year Police Academy. In addition, a person who graduated from any high school without attending Police College can also attend the four-year Police Academy to become a ranked police officer. After graduating from Police Academy, ranked police officers are promoted through the higher ranks as they meet certain requirements. Line police officers already working in the TNP can also become ranked police officers by passing the qualifying exam and attending eight months of preparatory courses in the police school. However, line police officers must work in the TNP at least five years as before being eligible to attempt the qualifying exam.
Riot Units are established under the supervisor of the security department of the General Directorate of Security. The aim of the Riot Units in the 81 provinces is to maintain the public’s right of social movement and demonstrations in a secure way. When assigned to work in this unit, police officers should serve at least three years. As the police structure is based on centralized management, after working three years in the Riot Units, one can be assigned to another unit.

This study was confined to line police officers working in the Riot Unit of Turkish National Police in Ankara, Turkey. Istanbul, Izmir, and Ankara are the biggest cities in Turkey. The Riot Unit in Ankara has a population of 2000 employees. 92 of the employees are police managers (having different ranks). Since the survey will be distributed to sworn police officers, the total population for the current study will be 1910 sworn line police officers.

Sampling Method

This research is a quantitative study. Social science research is “a creative process of insight and discovery taking place within a well-established structure of scientific inquiry” (King, Keohane, & Verba, 1994, p.12). Additionally, social research seeks to identify and ameliorate the problems emerging in the social world (Singleton and Straits, 2005). To answer these problems, social research methods can be divided into two main segments: quantitative and qualitative. Some scholars propose that there are numerous differences between qualitative and quantitative research. However, according to King, Keohane, & Verba (1994), appropriate qualitative and quantitative research do not vary methodologically and substantively. Only stylistic difference may
occur, however. They add that both qualitative and quantitative research studies have different styles of research but one logic of consequence. In addition, the aim of the quantitative research is to conclude whether the predictive generalization of a theory is valid.

Generally, probability sampling designs are used in the quantitative research design as it assumes that each subject has an equal chance to be selected and included in the sample. Thus, most of the researchers prefer to use probability sampling in survey research to generalize the results of their analysis to a larger population. Simple random sampling, systematic sampling, stratified sampling, and multi-stage cluster sampling are the sampling methods that are used under probability sampling designs (Babbie, 2007).

The researcher employed simple random sampling as the Riot Unit has an up-to-date list of its entire staff freely available to employees of the police department. Additionally, the list includes the up-to-date telephone numbers and mailing addresses of the police officers. For the current study, the sample size is 331 sworn police officers, approximately one-fifth of the whole population. As in the table of Bartlett, Kortlik and Higgins’ (2001) “table for determining [a] minimum returned sample size for a given population size for continuous and categorical data” (p. 48), a sample size of 112 is enough for a population size of 2000 with a .03 margin of error. Therefore, 331 sworn police officers as a sample size will sufficiently reflect a population of 1,910 for this study. In terms of the covariance structure model, Boomsma and Hoogland (2001) assert that the sample size of 200 and over is enough for a reliable result if the model is correct. They also add that the sample size of 200 and over hardly constitutes a
problem for the results. The researcher selected 331 sworn line police officers as a sample size by using simple random sampling according to the structure type of the Riot Unit, which variously involves working in a squad, group, or team.

Data Collection Method

The Ankara Riot Unit consists of 10 squads, each squad having approximately 120-130 line police officers. Every squad is managed under a police major. In addition, each squad has three groups, each of which has at least four teams. Moreover, each team has ten line police officers. Line police officers work under the command of police managers in the Riot Unit. Therefore, before conducting the survey, police managers were informed about the process. In order to get a high response rate, police managers were asked to inform line police officers about the current survey, which was delivered to each officers’ mail box in the Riot Unit. Additionally, the list of employees was provided from police managers.

The mail-in survey method was chosen for this study. Since all police officers have a locker and post box in the compound, the mail surveys were delivered to their lockers. They were asked to fill the survey and return it to a large box placed in a specific location in the compound. This preserved anonymity while also giving the line police officer’s confidence about the anonymity of their answers. Additionally, the mail-in survey method was preferred for this study because the group administration method would cause officers to feel pressure from their superiors to respond to the survey. Moreover, it would also harm the anonymity of the police officers participating.
In order to avoid the generalization problem in the Riot Unit, the researcher paid
great attention to the process of sending the surveys to line police officers working in
different squads. Selecting the sample within each squad and sending the surveys to
line police officers working in different squads will provide a general evaluative strength
for the results of this study.

The questionnaires of Multifactor Leadership (MLQ), Knowledge Sharing, and
demographics were arranged as a booklet and sent to randomly selected officers’ mail
boxes.

Method of Analysis

The current study has two dependent variable --; knowledge sharing and extra
effort --and three independent variables --transformational, transactional, and laissez-
faire leadership. In addition, gender, age, education level, and service years of the
officers were used as control variables for this study.

SPSS-15 and AMOS 16.0 software were used for the analysis of this study. First,
the researcher coded the data for the SPSS 15 software and conducted a descriptive
frequency analysis including standard deviations, frequencies, and means to better
understand the characteristics of the sample. Then, the researcher produced a
correlation matrix table to examine the linear associations between the dependent and
independent variables used in the current study.

Last but not least, multivariate statistical analyses were performed in order to test
the hypotheses. As the dependents are continuous variables, the ordinary least squares
(OLS) regression technique was deemed appropriate for this study. The multiple
regressions consisted of five models. Line police officers` willingness to exert extra effort was regressed on police managers` leadership styles (transformational, transactional, and laissez-faire) in the first model. The mediating variable (officers` knowledge sharing) was added to the first model, and officers` willingness to exert extra effort was regressed on both the mediating variable and the police managers` three leadership styles in the second model. The demographics of the officers (gender, age, education, and service years in the TNP) were added to the second model, and officers` willingness to exert extra effort was regressed on police managers` three leadership styles, the mediating variable, and the officers` demographic variables in the third model.

In the second phase, officers` knowledge sharing was regressed on their police managers` three leadership styles in the fourth model. Then, the demographics of the officers (gender, age, education, and service years in TNP) were added to the second model and the officers` knowledge sharing was regressed on both of their managers` three leadership styles and demographic variables of the officers.

Finally, the researcher conducted a mediating analysis in order to reveal the effect of the third variable on the association between the dependent and independent variables. Because one of the aims of this study is to examine the effect of the mediating variable – officers` knowledge sharing—on the dependent variable – officers` willingness to exert extra effort in the Riot Unit.
CHAPTER IV

FINDINGS

Introduction

This chapter presents the effect of police officers’ perception of their leaders’ leadership styles and its impact on police officers’ willingness to exert extra effort through knowledge sharing in the Riot Unit of the Turkish National Police (TNP) in Ankara, Turkey. In the first phase, the use of descriptive statistics, univariate distributions and bivariate analyses are displayed. Second, multivariate analyses and their results are presented. Lastly, the mediated analyses are implemented, and the direct, indirect and total effects are discussed.

Descriptive Statistics

The data were collected from line police officers working in the Riot Unit of the TNP in the city of Ankara via a paper-based survey data collection method. The total number of surveys sent to the officers was 400. The 331 samples were taken into consideration as this is large enough a sample for the necessary confidence level of this study. 69 samples were not usable because of their being in complete or unusable. As a consequence, the response rate was 82.75% for this study.

First of all, the data were screened in order to identify the missing data and outliers. Missing data were handled by replacing the missing values with the mean of the series method. Therefore, the researcher did not lose any part of the sample. Later, in order to avoid outliers capable of distorting the results of the study statistically, univariate and multivariate outliers were examined. In terms of examining univariate
outliers, as adapted from Mertler and Vannatta (2005), the data were transformed to z-scores, any z value greater than +4.00 or less than -4.00 being considered an outlier. In order to identify the multivariate outliers, the statistical technique Mahalanobis distance was used. The Mahalanobis distance value $p < .001$ was accepted as the criterion for outliers (Mertler & Vannatta, 2005). In both examinations, six cases were determined as outliers and eliminated from the data set.

Second, the researcher evaluated the assumptions of the ordinary least squares (OLS) multiple regressions. First, kurtosis and skewness values of the variables were examined in order to maintain the normality assumption. It was noted that only the variable of police officers’ service years in the TNP was found as positively skewed as it exceeded the value of 1.0. In order to ensure that the variable was normally distributed, a square root transformation was applied (see Table 4.4). Moreover, residual plot linearity and homoscedasticity were assessed in order to see whether the data were consistently spread out. The results indicated that there was no indicator able to harm linearity and homoscedasticity (see Appendix H). Last but not least, the researcher investigated the multi-collinearity issue in order to see whether the variance inflation factors (VIF) were smaller than 10 (Mertler & Vannatta, 2005). The results revealed that there was no problem with multi-collinearity for the regression analysis. Finally, all the results indicated that the assumptions of the OLS regression were met.

Frequency and Percentage Distributions for the Control Variables

The control variables were the demographic characteristics of the respondents participating in this study. The age, gender, service years in the TNP, and education
level of the participant police officers were considered to have effect on both their knowledge sharing and willingness to exert extra effort in their jobs.

The following tables illustrate the descriptive statistics of the control variables including percentage distribution and frequencies.

Gender: As seen in Table 4.1, 9.4 % of the sample (31) is female and 90.6% (300) is male. The gender distribution of this study is consistent with the actual proportion of gender distribution in the total population of the TNP (Ozmen, 2008).

Table 4.1

\[ \text{Gender Distribution} \]

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>31</td>
<td>9.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Male</td>
<td>300</td>
<td>90.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>331</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Age: In terms of age, the sample ranges from 20 to 30 years with an average age of 24.8 and a mode of 26 (see Table 4.2). The largest age group (40.2 %) ranges between 23 and 25 in this sample.

Table 4.2

\[ \text{Age Group Distribution} \]

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-22</td>
<td>62</td>
<td>18.7</td>
<td>18.7</td>
</tr>
<tr>
<td>Mean: 24.8 Mode: 26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23-25</td>
<td>133</td>
<td>40.2</td>
<td>58.9</td>
</tr>
<tr>
<td>26-28</td>
<td>115</td>
<td>34.7</td>
<td>93.7</td>
</tr>
<tr>
<td>29-30</td>
<td>21</td>
<td>6.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>331</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
Education: The education levels of the Police officers ranged from high school to master’s degree. Table 4.3 illustrates that only 3 (0.9 %) of the participants had only completed high school while largest proportion, representing those participants who had attained a university degree, is 176 (53.2 %).

Table 4.3

<table>
<thead>
<tr>
<th>Education Levels</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school</td>
<td>3</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Two-year college</td>
<td>139</td>
<td>42.0</td>
<td>42.9</td>
</tr>
<tr>
<td>University</td>
<td>176</td>
<td>53.2</td>
<td>96.1</td>
</tr>
<tr>
<td>Masters</td>
<td>12</td>
<td>3.7</td>
<td>99.7</td>
</tr>
<tr>
<td>Doctorate</td>
<td>1</td>
<td>0.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>331</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Service years: The participant police officers’ service years in the TNP ranged from <1 to 6 years. The majority of the participants (194; 58.6 %) had worked at least 1 year in the TNP. The average year of service for the sample was 1.3 years and the mode was 1 year (see Table 4.4).

Table 4.4

<table>
<thead>
<tr>
<th>Service Year</th>
<th>Freq</th>
<th>Percent</th>
<th>Cumulative Percent</th>
<th>Mean</th>
<th>Mode</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>54</td>
<td>16.3</td>
<td>16.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>194</td>
<td>58.6</td>
<td>74.9</td>
<td>1.3</td>
<td>1</td>
<td>1.144</td>
<td>0.703</td>
</tr>
<tr>
<td>2.00</td>
<td>25</td>
<td>7.6</td>
<td>82.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td>37</td>
<td>11.2</td>
<td>93.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td>18</td>
<td>5.5</td>
<td>99.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.00</td>
<td>1</td>
<td>0.3</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>331</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Descriptive Statistics for Dependent and Independent variables

The dependent (endogenous) variable for this study is officers` willingness to exert extra effort. Officers` knowledge sharing in the Riot Unit is assigned as a mediating variable. Officers` perceptions about their leaders` leadership behaviors (transformational leadership, transactional leadership, and laissez-faire leadership) are the independent (exogenous) variables (See Table 4.5).

Line police officers` perceptions about their manager`s transformational leadership were measured with 20 items in the MLQ 5X (short form). Participants responded to the MLQ along the following criteria: 0 = not at all; 1 = once in a while; 2 = sometimes; 3 = fairly often; and 4 = frequently if not always.

The mean scores of the descriptive analysis of leadership variables and dependent variables were represented in the Table 4.5. The mean score of 1.938 with a standard deviation of 0.88961 indicates that subordinate officers perceived their leaders as sometimes demonstrating transformational behavior. Likewise, the mean score of 1.9265 with a standard deviation of 0.57502 indicates that subordinate officers perceived their leaders as sometimes demonstrating transactional behavior. Besides that, the mean score of 1.7571 with a standard deviation of.93638 indicates that subordinate officers perceived their leaders as sometimes demonstrating laissez-faire behavior once in a while or at most. In addition, the mean score of officers` willingness to exert extra effort of 1.8541 with a standard deviation of 1.08618 indicates that subordinate officers were once in a while or at most sometimes willing to exert extra effort. In terms of knowledge sharing, the mean score of 1.9906 with a standard deviation of .8396 indicates that subordinate officers sometimes share their knowledge.
Univariate Distributions

A normality test was applied to all variables used in this study to inspect the distribution of the variables. As stated by Mertler and Vannatta (2005, p. 31) "data transformations involve the application of mathematical procedures to the data in order to make them appear 'more normal.'" After maintaining the analyses it was noted that only the variable of police officers’ service years in the TNP was found to be positively skewed. In order to make the variable normally distributed, a square root transformation was applied the variable of officers’ service year in the TNP. The descriptive statistic for service years can be seen in Table 4.4.

Table 4.5

Descriptive Statistics for Dependent and Independent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td>Extra effort</td>
<td>1.8541</td>
<td>1.08618</td>
<td>-0.154</td>
</tr>
<tr>
<td>Mediating variable</td>
<td>Knowledge sharing</td>
<td>1.9906</td>
<td>0.80396</td>
<td>-0.192</td>
</tr>
<tr>
<td>Independent variables</td>
<td>Transformational</td>
<td>1.938</td>
<td>0.88961</td>
<td>-0.266</td>
</tr>
<tr>
<td></td>
<td>Transactional</td>
<td>1.9265</td>
<td>0.57502</td>
<td>-0.016</td>
</tr>
<tr>
<td></td>
<td>Laissez-faire</td>
<td>1.7571</td>
<td>0.93638</td>
<td>0.106</td>
</tr>
</tbody>
</table>

Bivariate Analyses

Table 4.6 represents the bivariate correlations between dependent and independent variables. In order to determine the degree of association between two quantitative variables, a bivariate correlation was used. Bivariate regression "utilizes the relationship between the independent and dependent variables to predict the score of the dependent variable from the independent variable" (Mertler & Vannatta, 2005, p. 13). One of the aspects of using a bivariate correlation matrix is to find variables that
might have high intercorrelations with each other and therefore might mislead results in multivariate analyses. According to Berry and Feldman (1985) the cut-off value for multicollinearity is 0.80, which is not considered a problem unless the correlations between two variables exceed the value of 0.80.

According to the bivariate correlation results, Hypotheses H1 and H2, investigating the effect of transformational and transactional leadership on police officers’ willingness to exert extra effort, are supported. There is a statistically significant positive correlation between transformational leadership and police officers’ willingness to exert extra effort ($r = .794$, $p < 0.01$). This is to say, police officers’ willingness to exert extra effort is more likely to be higher when their leaders have a transformational leadership style. Likewise, there is a statistically significant positive correlation between transactional leadership and police officers’ willingness to exert extra effort ($r = .561$, $p < 0.01$). Thus, the researcher rejected the corollary null hypotheses ($H_{01}$ and $H_{02}$).

On the other hand, Hypothesis H3, concerning the effect of laissez-faire leadership on police officers’ willingness to exert extra effort, was not supported. As a result, Null Hypothesis $H_{03}$ failed to be rejected.

In terms of the correlation between the independent variables (transformational, transactional and laissez-faire leaderships) and the mediating variable (knowledge sharing), the Research Hypotheses H8 and H9 are supported. There is a statistically significant positive correlation between managers’ transformational leadership and officers’ knowledge sharing ($r = 0.585$, $p < 0.01$). This result indicates that transformational leadership has a positive effect on police officers’ knowledge sharing in the organization. Table 4.6 also illustrates that there is a statistically significant positive
correlation between managers’ transactional leadership and officers` knowledge sharing ($r = .519, p < 0.01$). This is to say, police officers` knowledge sharing activities increase with their managers’ both transformational and transactional leadership styles. As a result, the researcher rejected Null Hypotheses $H_{08}$ and $H_{09}$.

Contrary to the expectation, Null Hypothesis $H_{10}$ failed to be rejected, so Research Hypothesis H10, concerning the effect of the laissez-faire leadership on police officers` knowledge sharing, is not supported.

The correlation between the dependent variable (extra effort) and the mediating variable (knowledge sharing) is shown in Table 4.6. According to the results, there is a statistically significant positive correlation between police officers` knowledge sharing and their willingness to exert extra effort ($r = .558, p < 0.01$). That is to say, police officers’ willingness to exert extra effort is more likely to be higher when they share their knowledge in the organization. As a result, Research Hypothesis H15 was supported and Null Hypothesis $H_{015}$ was rejected.

According to the bivariate correlation results presented in Table 4.6, Hypotheses H4, H5, H6, and H7 related to the impact of the control variables (age, education, service years in the TNP, and gender) on police officers` willingness to exert extra effort were not supported. Thus, the researcher failed to reject Null Hypotheses $H_{04}$, $H_{05}$, $H_{06}$, and $H_{07}$. Likewise, Hypotheses H11, H12, and H14 concerned with the effect of age, education, and gender on police officers’ knowledge sharing in the organization were not supported. Therefore, Null Hypotheses $H_{011}$, $H_{012}$, and $H_{014}$ failed to be rejected. Among the control variables, only line police officers` service years in the TNP has a statistically significant positive correlation with officers` knowledge sharing
Table 4.6

Correlations

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans.</td>
<td>.794(**)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans.</td>
<td>.561(**)</td>
<td>.694(**)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>-0.100</td>
<td>-.175(**)</td>
<td>.229(**)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know.</td>
<td>.558(**)</td>
<td>.585(**)</td>
<td>.519(**)</td>
<td>0.042</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.085</td>
<td>.137(*)</td>
<td>0.082</td>
<td>-0.024</td>
<td>0.047</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grad.</td>
<td>0.054</td>
<td>.134(*)</td>
<td>0.059</td>
<td>-.142(*)</td>
<td>-0.006</td>
<td>.665(**)</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Year</td>
<td>0.018</td>
<td>0.015</td>
<td>.133(*)</td>
<td>.202(**)</td>
<td>.147(**)</td>
<td>-.196(**)</td>
<td>-.123(*)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.016</td>
<td>0.001</td>
<td>-0.007</td>
<td>0.048</td>
<td>0.016</td>
<td>-0.006</td>
<td>-0.023</td>
<td>0.101</td>
<td>-</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).**
(r = .147, p < 0.01). As a result, research hypothesis H13 was supported and the researcher rejected Null Hypothesis H013.

**Multivariate Analyses**

The following multivariate regression models and analyses examine the impact of the police officers` managers` leadership styles (transformational, transactional, and laissez-faire) on the officers` willingness to exert extra effort (dependent), and officers` knowledge sharing (mediating variable) among 325 police officers working in the Riot Unit of TNP in Ankara, Turkey. In order to maintain the analyses, three models were designed in the first phase and two in the second phase. The first model examines the impact of leadership styles (transformational, transactional, and laissez-faire) on officers` willingness to exert extra effort in the organization. The second model investigates the impact of leadership styles (independent variables) and the mediation variable (knowledge sharing) on officers` willingness to exert extra effort in the organization. The third model examines whether there will be a change in officers` willingness to exert extra effort (dependent) in the organization after including the control variables (age, education, service year in TNP, and gender) along with the independent and mediation variables.

In the second phase, the first model examines the impact of leadership styles (transformational, transactional, and laissez-faire) on officers` knowledge sharing in the organization. The second model examines whether there will be a change in officers` knowledge sharing (dependent) in the organization after including the control variables (age, education, service year in TNP, and gender).
OLS Regression Results for Officers` Willingness to Exert Extra Effort

The results of the ordinary least squares (OLS) of the first three models are presented separately. Model 1 addresses the impact of managers` leadership styles -- transformational, transactional, and laissez-faire -- on line police officers` willingness to exert extra effort.

The results of the Model 1 regression analysis are presented in the following tables: model summary (Table 4.7), ANOVA table (Table 4. 8) and coefficients table (Table 4.9). Both the tables of the ANOVA and the model summary indicate that the overall model of the three independent variables significantly predicts the officers` willingness to exert extra effort ($R^2 = 0.631$, $F (3,321) = 183.288$, $p < 0.001$). In terms of the $R^2$ value, Model 1 explains 63 % of the variation in an individual`s willingness to exert extra effort. The variable of transformational leadership ($\beta = 0.807$, $p < 0.001$) makes a significant contribution to the model. According to the results of the B weights, the equation for this model is:

$$E(Y) = a + B(\text{Transformational}) \times (\text{Transformational}) + B(\text{Transactional}) \times (\text{Transactional}) + B(\text{Laissez-faire}) \times (\text{Laissez-faire})$$

Extra Effort = $–0.112 + 0.986 \times \text{transformational leadership – 0.17 \times transactional leadership + 0.050 \times laissez-faire leadership}$

Table 4.7

*Model 1 Summary Table for the First Regression Analysis of Extra Effort*

<table>
<thead>
<tr>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.795(a)</td>
<td>0.631</td>
<td>0.628</td>
<td>0.66252</td>
</tr>
</tbody>
</table>

Predictors: (Constant), Laissez-faire Leadership, Transformational Leadership, Transactional Leadership
Table 4.8

ANOVA Summary Table for the First Regression, Model 1

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>241.353</td>
<td>3</td>
<td>80.451</td>
<td>183.288</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>140.897</td>
<td>321</td>
<td>0.439</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>382.250</td>
<td>324</td>
<td>0.439</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), Laissez-faire Leadership, Transformational Leadership, Transactional Leadership. Dependent Variable: Extra Effort

Table 4.9

Model 1 Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized</th>
<th>Standardized</th>
<th>t</th>
<th>Sig.</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-0.112</td>
<td>0.136</td>
<td>-0.827</td>
<td>0.409</td>
<td></td>
</tr>
<tr>
<td>Transformational</td>
<td>0.986</td>
<td>0.065</td>
<td>0.807</td>
<td>15.088</td>
<td>0.000</td>
</tr>
<tr>
<td>Transactional</td>
<td>-0.17</td>
<td>0.102</td>
<td>-0.009</td>
<td>-0.166</td>
<td>0.868</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>0.050</td>
<td>0.046</td>
<td>0.044</td>
<td>1.099</td>
<td>0.272</td>
</tr>
</tbody>
</table>

Dependent Variable: Extra Effort

The multiple regression results related to Model 1 indicated a statistically significant positive relationship between officers` willingness to exert extra effort and their perceptions of the transformational leadership of their managers (B = 0.986, p < 0.001). That is to say, officers` willingness to exert extra effort increases when their immediate managers exhibit transformational leadership behavior. As the first model supported Research Hypothesis H1, Null Hypothesis H₀₁ (a denial of the relatedness of officers` perceptions of transformational leadership and willingness to exert extra effort) was rejected.
Contrary to the expectation, two research hypotheses (H2 and H3) regarding the impact of officers’ managers’ both transactional and laissez-faire leadership on officers’ willingness to extra effort are not supported by the first model (B = -0.17, \( p = 0.868 \) and B = 0.050, \( p = 0.272 \), respectively). That is controlling for other variables, these two variables do not have a significant effect on officers’ willingness to extra effort in the Riot Unit. For that reason, the researcher failed to reject Null Hypotheses H02 and H03.

Model 2 maintains the analysis by adding the knowledge sharing variable to Model 1. The results of Model 2 regression analysis are presented in the tables below: model summary (Table 4.10), ANOVA table (Table 4.11) and coefficients table (Table 4.12). Both the tables of the ANOVA and the model summary indicate that the overall model of four independent variables significantly predicts the officers’ willingness to exert extra effort in the Riot Unit. In terms of the \( R^2 \) value (0.644), Model 2 explains 64% of the variation in an individual’s willingness to exert extra effort. The overall \( F \) statistic \( (F (4,320) = 144.574, p < 0.001) \) indicates sufficient evidence to reject the null hypothesis that all of the regression coefficients obtained from this model are equal to zero. Both the variable of transformational leadership (\( \beta = 0.738, p < 0.001 \)) and knowledge sharing (\( \beta = 0.141, p < 0.05 \)) make a significant contribution to the model.

According to the results of the B weights, the equation for this model is:

\[
E(Y) = a + B(\text{Transformational}) \times (\text{Transformational}) + B(\text{Transactional}) \times (\text{Transactional}) + B(\text{Laissez-faire}) \times (\text{Laissez-faire}) + B(\text{Knowledge Sharing}) \times (\text{Knowledge Sharing})
\]

\[
\text{Extra Effort} = -0.220 + 0.901 \times \text{transformational leadership} + -0.058 \times \text{transactional leadership} + 0.035 \times \text{laissez faire leadership} + 0.190 \times \text{knowledge sharing}
\]
Table 4.10

*Model 2 Summary Table for the Second Regression Analysis of Extra Effort*

<table>
<thead>
<tr>
<th>R</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.802(a)</td>
<td>0.644</td>
<td>0.639</td>
<td>0.65232</td>
</tr>
</tbody>
</table>

Predictors: (Constant), Knowledge Sharing, Laissez-faire Leadership, Transformational Leadership, Transactional Leadership

Table 4.11

*ANOVA Summary Table for the Second Regression, Model 2*

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>246.181</td>
<td>4</td>
<td>61.520</td>
<td>144.574</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>136.169</td>
<td>320</td>
<td>0.426</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>382.250</td>
<td>324</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), Knowledge Sharing, Laissez-faire Leadership, Transformational Leadership, Transactional Leadership. Dependent Variable: Extra

Table 4.12

*Model 2 Coefficients*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-0.220</td>
<td>0.138</td>
<td>-1.598</td>
<td>0.111</td>
<td></td>
</tr>
<tr>
<td>Transformational</td>
<td>0.901</td>
<td>0.69</td>
<td>0.738</td>
<td>13.034</td>
<td>0.000</td>
</tr>
<tr>
<td>Transactional</td>
<td>-0.058</td>
<td>0.101</td>
<td>-0.031</td>
<td>-0.576</td>
<td>0.565</td>
</tr>
<tr>
<td>Laissez</td>
<td>0.035</td>
<td>0.045</td>
<td>0.031</td>
<td>0.780</td>
<td>0.436</td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>0.190</td>
<td>0.057</td>
<td>0.141</td>
<td>3.333</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Dependent Variable: Extra Effort
Consistent with Model 1, the multiple regression results related to Model 2 indicated a statistically significant positive relationship between officers` willingness to exert extra effort and their perception of transformational leadership about their managers (B = 0.901, \( p < 0.001 \)). Likewise, officers` knowledge sharing has a statistically significant positive relationship with their willingness to exert extra effort (B = 0.190, \( p < 0.05 \)). That is to say, officers` willingness to exert extra effort increases when their knowledge sharing increases. According to the results of Model 2, Null Hypotheses H01 and H015 were rejected and Research Hypotheses H1 and H15 were supported.

Parallel to the results of Model 1, adding officers` knowledge sharing to Model 2 did not alter the insignificant relationship between officers` managers` both transactional (B = -0.058, \( p = 0.565 \)) and laissez-fair leadership (B = 0.035, \( p = 0.436 \)) and their willingness to exert extra effort in the Riot Unit. Since these two variables are not supported in terms of the results of Model 2, the researcher failed to reject Null Hypotheses H02 and H03, so the Research Hypotheses H2 and H3 were not supported.

The results of the Model 3 regression analysis are presented in the following tables: model summary (Table 4.13), ANOVA table (Table 4.14) and coefficients table (Table 4.15). Both of the ANOVA and the model summary tables indicate that the overall model of four independent variables and four control variables significantly predict an officer` willingness to exert extra effort (\( R^2 = 0.646, F(8,316) = 72.026, p < 0.001 \)). In terms of the \( R^2 \) value, Model 3 explains approximately 65% of the variation in an individual`s willingness to exert extra effort. The variable of transformational leadership (\( \beta = 0.741, p < 0.001 \)) and officers` knowledge sharing (\( \beta = 0.139, p < 0.05 \))
make a significant contribution to the model. According to the results of the B weights, the equation for this model is:

\[
E(Y) = \alpha + B(\text{Transformational}) \times \text{(Transformational)} + B(\text{Transactional}) \\
\times \text{(Transactional)} + B(\text{Laissez-faire}) \times \text{(Laissez-faire)} + B(\text{Knowledge Sharing}) \\
\times \text{(Knowledge Sharing)} + B(\text{Age}) \times \text{(Age)} + B(\text{Graduation}) \times \text{(Graduation)} + B(\text{Service year}) \times \text{(Service year)} + B(\text{Gender}) \times \text{(Gender)}
\]

Extra Effort = 0.053 + 0.904 X transformational leadership – 0.049 X transactional leadership + 0.032 X laissez faire leadership + 0.188 X Knowledge Sharing + 0.008 X Age - 0.085 X Graduation - 0.042 X Experience + 0.47 X Gender

Table 4.13

**Model 3 Summary Table for the Third Regression Analysis of Extra Effort**

<table>
<thead>
<tr>
<th></th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.804(a)</td>
<td>0.646</td>
<td>0.637</td>
<td>0.65455</td>
</tr>
</tbody>
</table>

Predictors: (Constant), gender of responders, Transformational Leadership, Service year in TNP, Graduation of responders, Laissez-faire Leadership, Knowledge Sharing, Age of responders, Transactional Leadership.

Table 4.14

**ANOVA Summary Table for the Third Regression, Model 3**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>246.866</td>
<td>8</td>
<td>30.858</td>
<td>72.026</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>135.384</td>
<td>316</td>
<td>0.428</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>382.250</td>
<td>324</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), gender of responders, Transformational Leadership, Service year in TNP, Graduation of responders, Laissez-faire Leadership, Knowledge Sharing, Age of responders, Transactional Leadership. Dependent Variable: Extra Effort
The multiple regression results related to Model 3 indicated a statistically significant positive relationship between officers` willingness to exert extra effort and their perception of transformational leadership about their managers ($B = 0.904, p < 0.001$). That is to say, officers` willingness to exert extra effort increases when their immediate managers exhibit a transformational leadership behavior. Likewise, a significant positive relationship exists between officers` willingness to exert extra effort and their knowledge sharing ($B = 0.188, p < 0.05$). That is to say, officers` willingness to exert extra effort increases when their knowledge sharing increases. Transformational leadership is the strongest predicting variable in Model 3 as it has the largest standardized coefficient ($\beta = 0.741, p = 0.05$).
Table 4.16

Summary of OLS Regression Analyses of Officers’ Extra Effort

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1 Extra Effort</th>
<th>Model 2 Extra Effort</th>
<th>Model 3 Extra Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B^a (SE)</td>
<td>β^b</td>
<td>VIF^c</td>
</tr>
<tr>
<td>Transformational</td>
<td>0.986*** (0.065)</td>
<td>0.807</td>
<td>2.494</td>
</tr>
<tr>
<td>Transactional</td>
<td>(-) 0.17 (0.102)</td>
<td>-0.009</td>
<td>2.551</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>0.05 (0.046)</td>
<td>0.044</td>
<td>1.365</td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model R^2</td>
<td>0.631</td>
<td>0.644</td>
<td>0.646</td>
</tr>
</tbody>
</table>

*p < 0.10, **p < 0.05, ***p < 0.01 (Two tailed test), ^a Unstandardized regression coefficient, ^b Standardized regression coefficient, ^c Variance inflation factor.
Parallel to the previous two models (Models 1 and 2), two research hypotheses, H2 and H3, regarding the impact of officers’ managers’ both transactional and laissez-faire leadership, are not related to officers’ willingness to exert extra effort in the third model ($B = -0.049$, $p = 0.630$ and $B = 0.032$, $p = 0.497$ respectively). That is, controlling for other variables, these two do not have a significant effect on officers’ willingness to exert extra effort in the Riot Unit. For that reason, the researcher failed to reject Null Hypotheses $H_{02}$ and $H_{03}$.

Contrary to expectation, the four research hypotheses related to the impact of officers’ age ($H_4$), graduation ($H_5$), service years ($H_6$), and gender ($H_7$) are not supported by Model 3. That is, controlling for other variables, these variables do not have a significant effect on officers’ willingness to exert extra effort. Thus, the researcher failed to reject Null Hypotheses $H_{04}$, $H_{05}$, $H_{06}$, and $H_{07}$.

**OLS Regression Results for Officers` Knowledge Sharing**

The following tables provide the results of the ordinary least squares related to officers’ knowledge sharing. Model 1 address the impact of managers’ leadership styles -- transformational, transactional, and laissez-faire -- on police officers’ knowledge sharing.

The results of the Model 1 regression analysis are presented in the following tables: model summary (Table 4.16), ANOVA table (Table 4.17) and coefficients table (Table 4.18). Both of the ANOVA and the model summary tables indicate that the overall model of three independent variables significantly predicts officers’ knowledge sharing in the Riot Unit ($R^2 = 0.373$, $F(3,321) = 63.762$, $p < 0.001$). In terms of the $R^2$
value, Model 1 explains 37% of the variation in an individual’s knowledge sharing. The standardized coefficient for transformational leadership, $\beta = 0.493$, indicates that this variable has the strongest impact on officers’ knowledge sharing among the variables used in Model 1. According to the results of the B weights, the equation for this model is:

$$E(Y) = a + B(\text{Transformational}) \times (\text{Transformational}) + B(\text{Transactional}) \times (\text{Transactional}) + B(\text{Laissez-faire}) \times (\text{Laissez-faire})$$

Knowledge sharing $= 0.567 + 0.445 \times \text{transformational leadership} + 0.219 \times \text{transactional leadership} + 0.044 \times \text{laissez-faire leadership}$

Table 4.17

*Model 1 Summary Table for the First Regression Analysis of Knowledge Sharing*

<table>
<thead>
<tr>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.611(a)</td>
<td>0.373</td>
<td>0.368</td>
<td>0.63937</td>
</tr>
</tbody>
</table>

Predictors: (Constant), Laissez-faire Leadership, Transformational Leadership, Transactional Leadership

Table 4.18

*ANOVA Summary Table for the First Regression, Model 1*

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>$df$</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>78.197</td>
<td>3</td>
<td>26.066</td>
<td>63.762</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>131.223</td>
<td>321</td>
<td>0.409</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>209.420</td>
<td>324</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), Laissez-faire Leadership, Transformational Leadership, Transactional Leadership. Dependent Variable: Knowledge Sharing.
Table 4.19

Model 1 Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>0.567</td>
<td>0.131</td>
<td>4.320</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Transformational</td>
<td>0.445</td>
<td>0.063</td>
<td>0.493</td>
<td>0.000</td>
<td>2.494</td>
</tr>
<tr>
<td>Transactional</td>
<td>0.219</td>
<td>0.099</td>
<td>0.156</td>
<td>0.027</td>
<td>2.551</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>0.079</td>
<td>0.044</td>
<td>0.092</td>
<td>0.075</td>
<td>1.365</td>
</tr>
</tbody>
</table>

Dependent Variable: Knowledge Sharing

The multiple regression results related to Model 1 indicated a statistically significant positive relationship between officers` knowledge sharing and their perception of transformational leadership about their managers. That is to say, officers` knowledge sharing increases when their immediate managers exhibit a transformational leadership behavior ($B = 0.445, p < 0.001$) Likewise, transactional leadership was found to have a significant relationship with officers` knowledge sharing. ($B = 0.219, p < 0.05$). The results of Model 1 support two research hypotheses (H8 and H9), so the researcher rejected Null Hypotheses $H_{08}$ and $H_{09}$.

Contrary to expectation, Research Hypothesis $H_{10}$, regarding the impact of officers` managers` laissez-faire leadership on officers` knowledge sharing, is not supported by the first model ($B = 0.079, p = 0.075$). That is controlling for other variables, managers` laissez-fair leadership does not have a significant effect on officers` knowledge sharing in the Riot Unit. For that reason, the researcher failed to reject Null Hypothesis $H_{010}$.

Model 2 consists of adding control variables to Model 1 and examines the impact
of the control variables. The results of the Model 2 regression analysis are shown in the model summary (Table 4.19), ANOVA table (Table 4.20) and coefficients table (Table 4.21). Both the tables of the ANOVA and the model summary indicate that the overall model of three independent variables and four control variables significantly predicts officers` knowledge sharing in the Riot Unit ($R^2 = 0.389, F(7,317) = 28.809, p < 0.001$).

In terms of the $R^2$ value, Model 1 explains approximately 39% of the variation in an individual`s knowledge sharing.

According to the results of the B weights, the equation for this model is:

$$E(Y) = \alpha + B(\text{Transformational}) \times (\text{Transformational}) + B(\text{Transactional}) \times (\text{Transactional}) + B(\text{Laissez-faire}) \times (\text{Laissez-faire}) + B(\text{Age}) \times (\text{Age}) + B(\text{Graduation}) \times (\text{Graduation}) + B(\text{Service year}) \times (\text{Service year}) + B(\text{Gender}) \times (\text{Gender})$$

Knowledge sharing = 0.824 + 0.450 X transformational leadership + 0.206 X transactional leadership + 0.053 X laissez-faire leadership + 0.049 X Age - 0.131 X Graduation + 0.158 X Service year + 0.003 X Gender

Table 4.20

**Model 2 Summary for the Second Regression Analysis of Knowledge Sharing**

<table>
<thead>
<tr>
<th></th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.624(a)</td>
<td>0.389</td>
<td>0.375</td>
<td>0.63543</td>
</tr>
</tbody>
</table>

Predictors: (Constant), Gender of responders, Transformational Leadership, Service year in TNP, Graduation of responders, Laissez-faire Leadership, Age of responders, Transactional Leadership

Table 4.21

**ANOVA Summary Table for the Second Regression, Model 2**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>$df$</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>81.425</td>
<td>7</td>
<td>11.632</td>
<td>28.809</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>127.994</td>
<td>317</td>
<td>0.404</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>209.420</td>
<td>324</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), Gender of responders, Transformational Leadership, Service year in TNP, Graduation of responders, Laissez-faire Leadership, Age of responders, Transactional Leadership. Dependent Variable: Knowledge Sharing.
The multiple regression results related to Model 2 pointed out that adding control variables to the model did not change the significant effect of the officers’ perception of their managers’ both transformational and transactional leadership on the officers’ knowledge sharing (B = 0.450, *p* < 0.001 and B = 0.206, *p* < 0.05 respectively). That is to say, officers’ knowledge sharing tends to be higher when their managers demonstrate either transformational or transactional leadership. These results support two hypotheses (H8 and H9), so the researcher rejected Null Hypotheses H08 and H09.

Consistent with the results of Model 1, no relationship exists between officers’ perception of their leaders’ laissez-faire leadership style and the officers’ knowledge sharing (B = 0.053, *p* = 0.243). Therefore, the researcher failed to reject Null Hypothesis H010.
Table 4.23

Summary of OLS Regression Analyses of Officers’ Knowledge Sharing

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1 Knowledge Sharing</th>
<th></th>
<th></th>
<th></th>
<th>Model 2 Knowledge Sharing</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B^a (SE)</td>
<td>β^b</td>
<td>VIF^c</td>
<td></td>
<td>B^a (SE)</td>
<td>β^b</td>
<td>VIF^c</td>
</tr>
<tr>
<td>Transformational</td>
<td>0.445*** (0.063)</td>
<td>0.493</td>
<td>2.494</td>
<td></td>
<td>0.450*** (0.063)</td>
<td>0.498</td>
<td>2.524</td>
</tr>
<tr>
<td>Transactional</td>
<td>0.219* (0.099)</td>
<td>0.156</td>
<td>2.551</td>
<td></td>
<td>0.206* (0.099)</td>
<td>0.147</td>
<td>2.576</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>0.079 (0.044)</td>
<td>0.092</td>
<td>1.365</td>
<td></td>
<td>0.053 (0.045)</td>
<td>0.062</td>
<td>1.437</td>
</tr>
<tr>
<td>Age</td>
<td>0.049 (0.058)</td>
<td>0.062</td>
<td>1.887</td>
<td></td>
<td>(-) 0.131 (0.083)</td>
<td>(-) 0.094</td>
<td>1.855</td>
</tr>
<tr>
<td>Graduation</td>
<td>(-) 0.131 (0.083)</td>
<td>(-) 0.094</td>
<td>1.855</td>
<td></td>
<td>0.158* (0.069)</td>
<td>0.105</td>
<td>1.11</td>
</tr>
<tr>
<td>Service Year</td>
<td>0.003 (0.123)</td>
<td>0.001</td>
<td>1.014</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model R^2</td>
<td>0.373</td>
<td></td>
<td></td>
<td></td>
<td>0.389</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^a Unstandardized regression coefficient, ^b Standardized regression coefficient, ^c Variance inflation factor.

*p < 0.10, **p < 0.05, ***p < 0.01 (Two tailed test)
In terms of the impact of the control variables, the results of Model 2 only supported Research Hypothesis H13. Officers` years of service in the TNP is significantly related to their knowledge sharing ($B = 0.158$, $p < 0.05$). In other words, officers` knowledge sharing tends to increase when they have more years of service in the TNP. Thus the researcher rejected Null Hypothesis $H_{013}$.

Contrary to expectation, the results of Model 2 did not support Hypotheses H11, H12, and H14. This is to say, officers` age, education, and gender do not have a significant effect on their knowledge sharing ($B = 0.049$, $p = 0.395$, $B = -0.131$, $p = 0.117$, and $B = 0.003$, $p = 0.978$, respectively). Thus, Null Hypotheses $H_{011}$, $H_{012}$, and $H_{014}$ failed to be rejected.

Finally, the researcher examined the data to see whether there was any multicollinearity problem. According to Mertler and Vannatta (2005), VIF values below 10 and tolerance statistics above .10 reveal that multicollinearity does not create a problem. As all VIF values are below 10 and tolerance statistics above .10, multicollinearity is not a problem for the current data.

**Mediated Analyses**

One of the aims of this study is to examine the effect of the mediating variable – officers` knowledge sharing—on the dependent variable – officers` willingness to exert extra effort in Riot Unit (H16). The researcher conducted a mediating analysis in order to reveal the effect of the third variable on the association between the dependent and independent variables. Mediation refers to “the effect of an independent variable on a dependent variable is transmitted through a third variable, called a *mediator variable*”
This method was first introduced by Baron and Kenny (1986) to point out how an intervening variable may interfere in the relationship between independent and dependent variables (Gelfand, Mensinger, & Tenhave, 2009).

Maximum likelihood is used in AMOS while performing model fitting to determine the path coefficients. Different from the multiple regression process, in which different analyses are required for all endogenous variables, one of the benefits of using AMOS is to calculate the coefficients simultaneously. Apart from the overall model fitting results, AMOS presents indirect, direct, and total effects of the variables (Meyers, Gamst, & Guarino, 2006).

In order to maintain the path analysis, the data were evaluated to provide the overall fit of the data. A fitting model refers to the relationship between the sample covariance matrix and the model-implied covariance matrix. Besides, the difference between two matrixes is supposed to be sufficiently small (Wan, 2002). If the difference is small enough the data fits the theoretical model.

No consensus exists among the researchers in terms of deciding which goodness-of-fit indicators ought to be reported, and many researchers find it difficult to determine the rules-of-thumb cutoff criteria and fit indexes for their studies (Hu & Bentler, 1999). For this study, the normed fit index (NFI), the comparative fit index (CFI), the chi-square (CMIN), the root mean square error of approximation (RMSEA) and Tucker Lewis index (TLI) were used as goodness-of-fit indicators. Fit indexes can be classified as absolute or incremental fit indexes (Hu & Bentler, 1999). NFI and CFI assume “there are no relationships in the data” (Meyers et al., 2006, p. 633). The results of NFI and CFI should range from 0 to 1. If the values of NFI and CFI are greater than
or equal to 0.95, the model fits the data well (Meyers et al., 2006). Besides that, Hu and Bentler (1999) stated that for continuous data, values of the RMSEA at $< 0.06$, TLI $> 0.95$, CFI $> 0.95$ are appropriate.

On the other hand, “the chi-square statistic is used to test the difference between the predicted and the observed relationships” (Meyers et al., 2006, p. 633). The chi-square test compares the observed covariance matrix and the given model’s covariance structure. For a better model fit, a lower chi-square value is required (Hu & Bentler, 1999; Kline, 2005). However, the chi-square test is sensitive to the sample size as larger correlations can cause big differences between observed and given covariance matrixes. At threshold value of 4.0 in the ratio of chi-square and degrees of freedom (CMIN/DF) is accepted as an indicator for reasonable fitness (Kline, 2005).

RMSEA is one of the most popular measurements among the fit indexes used in this study. RMSEA is an absolute goodness-of-fit test, which “measures the degree of model adequacy as based on population discrepancy in relation to degrees of freedom” (Wan, 2002, p. 82). A value of RMSEA less than 0.08 refers to a good fit; values ranging from 0.08 to 0.1 refer to a moderate fit; and values of RMSEA greater than 0.1 refer to a poor fit (Meyers et al., 2006).

The Tucker Lewis index (TLI) is a kind of incremental fit index. A TLI value of close to 1 refers to a good fit; 0.95 is accepted as the cutoff for a good model fit; however, a TLI value of below 0.90 means the model needs to be restructured (Hu & Bentler, 1999).

Based on the threshold values of the goodness-of-fit indicators, the researcher assessed the proposed model. In this model, the endogenous (dependent) variables,
officers` knowledge sharing and officers` willingness to exert extra effort, and three exogenous (independent) variables, transformational, transactional, and laissez-faire leadership styles, were analyzed. Besides that, four control variables, age, graduation, service year, and gender, were also included in this analysis.

The ratio of the chi-square to the degrees of freedom (CMIN/DF) of the proposed model was 17.080, which specifies a poor fit as the assigned criterion was < 4. As Kline (2005) indicates that the chi-square test is sensitive to the sample size, the researcher checked out other values. However, the values of CFI, TLI, and NFI were 0.683, 0.429, and 0.675, respectively, which together indicate a poor fit. Likewise, the value of RMSEA of the proposed model was 0.223, which also indicates a poor fit. As the values of the reported goodness-of-fit indicators were below the value of the criterion, the researcher restructured the proposed model.

Firstly, insignificant paths were identified in the proposed model by examining the nonstandardized coefficients and their significance levels. The results indicated that the paths between officers` willingness to exert extra effort and the control variables -- age, graduation, service years, and gender -- were found to be insignificant. Likewise, the paths between officers` knowledge sharing and the control variables; age, graduation, and gender were found insignificant. These non-significant control variables were excluded from the path analysis. In terms of exogenous (independent) variables, the path with managers` laissez-faire leadership and both officers` willingness to exert extra effort and their knowledge sharing was found to be insignificant. Likewise, the path between managers` transactional leadership and officers` willingness to exert extra effort
effort was found to be insignificant. As a result, these insignificant exogenous variables were eliminated from the proposed model.

The Results of the Respecified Model

After excluding the in-significant variables from the path analysis, the results reflected that these exclusions improved the model fit (see Table 4.22). The value of CMIN/DF in the revised model was 2.431, which indicated an acceptable fit. Besides that, the values of CFI increased from 0.683 to 0.992, TLI increased from 0.429 to 0.980, and NFI increased from 0.675 to 0.986, respectively, showing support for the model. Finally, the value of RMSEA in the revised model decreased from 0.223 to 0.066, which indicates a better model fit. As a result, the goodness of fit statistics for the revised model indicates a good fit for the current path analysis.

Table 4.24

*Goodness of Fit Statistics for Generic and Respecified Models*

<table>
<thead>
<tr>
<th>Index</th>
<th>Criterion</th>
<th>Generic Model</th>
<th>Revised Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square ($x^2$)</td>
<td>low</td>
<td>341.606</td>
<td>9.722</td>
</tr>
<tr>
<td>Degrees of Freedom (df)</td>
<td>≥ .0</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Probability</td>
<td>≥ .05</td>
<td>.000</td>
<td>.045</td>
</tr>
<tr>
<td>Likelihood Ratio ($x^2$/df)</td>
<td>&lt; 4</td>
<td>17.080</td>
<td>2.431</td>
</tr>
<tr>
<td>Comparative fit index (CFI)</td>
<td>&gt; .95</td>
<td>.683</td>
<td>.992</td>
</tr>
<tr>
<td>Tucker Lewis Index (TLI)</td>
<td>&gt; .90</td>
<td>.429</td>
<td>.980</td>
</tr>
<tr>
<td>Normed Fit Index (NFI)</td>
<td>&gt; .95</td>
<td>.675</td>
<td>.986</td>
</tr>
<tr>
<td>Root Mean Square Error of Approximation (RMSEA)</td>
<td>≤ .08</td>
<td>.223</td>
<td>.066</td>
</tr>
</tbody>
</table>
Figure 4.1 presents the path analysis for the revised model. Arrows demonstrate the direct and indirect paths. Officers’ knowledge sharing and officers’ willingness to exert extra effort represent endogenous (dependent) variables in the model. On the other side, managers’ transformational leadership, transactional leadership, and officers’ years of service refer to exogenous (independent) variables. Officers’ knowledge sharing is supposed to mediate the effect of exogenous variables on officers’ willingness to exert extra effort.

Figure 4.1. Respecified model.

**Direct, Indirect, and Total Effects**

As shown in Figure 4.1, the total effect of an independent variable is classified into two categories. One of them is the direct effect of the independent variable on the outcome variable, and the other is the indirect effect of the independent variable on the outcome depending on the number of mediators (Alwin & Hauser, 1975). Indirect effects
demonstrate “how much of a given effect occurs because the manipulation of the antecedent variable of interest leads to changes in other variables which in turn change the consequent variable” (Alwin & Hauser, 1975, p. 39).

Figure 4.2, adapted from MacKinnon, Lockwood, and Williams (2004, p. 102), not only gives an example in terms of showing the direct, indirect, and total effects, but also demonstrates the relationship between an independent variable (X), mediating variable (M), and dependent variable (Y) for a single mediator model. Moreover, this figure points out the estimation formula for indirect and total effects of the variable.

\[
\text{Indirect Effect} = \alpha \beta \\
\text{Direct Effect} = T_i \\
\text{Total Effect} = \alpha \beta + T^{\text{in}} + T
\]

\[\text{Indirect} = \alpha \beta \]
\[\text{Direct} = T_i \]
\[\text{Total} = \alpha \beta + T^{\text{in}} + T \]

*Figure 4.2. Indirect model.\(^1\)

---

\(^1\) Adapted from MacKinnon et al. (2004; p. 102)
The terms of mediation and suppression are used to demonstrate the effect of the third variable in the relationship between an independent and a dependent variable (MacKinnon et al., 2000). The relationship between variables and the mediator, or indirect effect, is characterized thus: “the independent variable causes the mediator, which, in turn causes the dependent variable.” (MacKinnon et al., 2000, p. 173). An independent variable having a causal association with both the mediating variable and the dependent variable indicates the existence of mediation (MacKinnon et al., 2000; MacKinnon, Fairchild, & Fritz, 2007). Moreover, the sign and the magnitude of the direct and indirect parameters indicate whether the third variable is a mediator. First, the indicator of the mediation emerges if both parameters have the same sign. Second, the magnitude of the parameters can indicate mediation, such as when the direct effect is smaller than the total effect. At this point, both the direct and total effect are required to be statistically significant (MacKinnon et al., 2000). If no mediation effect is occurring, the variable may have suppression, a direct, or an indirect effect.

A suppressor effect emerges when a third variable is included into the regression coefficient between the independent variable and dependent variable by increasing the magnitude of their relationship (Conger, 1974). Unlike mediation, the third variable operates as a suppressor when the direct effect of the variable is larger than its total effect. Another indicator of suppression is the sign of the direct and indirect effects. If the direct and indirect effects of the variable have opposite signs, this is an indicator of suppression effect (MacKinnon et al., 2000). Likewise, Tzelgov and Henik (1991) argue that the suppression effect emerges “when its indirect effect has a sign different from its validity” (p. 528).
The results presented in Table 4.23 indicate that the impacts of managers` transformational leadership on officers` willingness to exert extra effort is mediated by officers` knowledge sharing. Both the indirect and total effects of these variables are statistically significant. Even though managers` transactional leadership and officers` years of service do not have a direct effect on officers willingness to exert extra effort, both of these variables` total effects are statistically significant, and both are mediated by officers knowledge sharing.

Total Effects of Exogenous Variables on Officers` willingness to exert extra effort

According to the results of Table 4.23, managers` transformational leadership has a positive total effect on officers` willingness to exert extra effort in the Riot Unit (B = .142, p < .05). Contrary to the findings of the full regression model, this analysis suggests that transactional leadership is positively correlated with the officers` willingness to exert extra effort in the Riot Unit (B = .013, p < .01). Finally, officers` years of service in the TNP has a positive total effect on their willingness to exert extra effort in the Riot Unit (B = .098, p < .01), which is opposite the findings of the full regression model.

Direct Effects of Exogenous Variables on officers` willingness to exert extra effort

The results of Table 4.23 demonstrate that managers` transformational leadership had a significant direct effect on officers` willingness to exert extra effort (B = .130, p < .05). On the other hand, both the managers` transactional leadership and
officers` years of service in the TNP were not directly correlated with officers` willingness to exert extra effort.

Indirect Effects of Exogenous Variables on officers` willingness to exert extra effort

In this study, the researcher employed the AMOS 16.0 Statistical Analysis Software to calculate direct, indirect, and total effects of the exogenous variables. Table 4.23 demonstrates that transformational, transactional leadership and officers` service year in the TNP had an indirect effect on officers` willingness to exert extra effort. Transformational leadership had a statistically significant indirect effect (positive) on officers` willingness to exert extra effort in the Riot Unit (B = .012, p < .01). Even though both managers` transactional leadership and officers` years of service in the TNP did not have a significant direct effect on officers` willingness to exert extra effort, they had a statistically significant indirect effect (positive) on officers` willingness to exert extra effort in the Riot Unit (B = .013, p < .01 and B = .098, p < .01, respectively).

Table 4.25

Direct, Indirect, and Total Effects

<table>
<thead>
<tr>
<th>Variable</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
<th>Type of Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational</td>
<td>.130**</td>
<td>.012***</td>
<td>.142**</td>
<td>Direct, Indirect</td>
</tr>
<tr>
<td>Transactional</td>
<td>.000</td>
<td>.013***</td>
<td>.013***</td>
<td>Mediated</td>
</tr>
<tr>
<td>Service Year</td>
<td>.000</td>
<td>.098***</td>
<td>.098***</td>
<td>Mediated</td>
</tr>
</tbody>
</table>

Indirect effects through mediating variables: Knowledge Sharing. *p < 0.10, **p < 0.05, ***p < 0.01, (Two-tailed test)
CHAPTER V
DISCUSSION AND CONCLUSION

Introduction

The aim of this study was to investigate the effect of managers` leadership styles on officers` willingness to exert extra effort through officers` knowledge sharing. Three research questions and sixteen hypotheses were employed to investigate this relationship. Bivariate correlation, multivariate analysis (OLS regression), and mediated analysis were used to examine the effect of both demographic variables and managers` leadership styles (transformational, transactional, and laissez-faire) on officers` willingness to exert extra effort through knowledge sharing.

The three research questions are discussed here according to the findings of the statistical analyses presented in Chapter IV. Besides that, the theoretical, methodological, and professional implications of the current study are presented in this chapter. Finally, the limitations and future recommendations of this study will be mentioned.

Summary and Discussion of the Findings

Descriptive Statistics

The Cronbach’s alpha reliability coefficients (α) for the three leadership styles (transformational, transactional, and laissez-faire) and the outcome of extra effort in the MLQ (5x-Short) were .94, .67, .70, and .82, respectively. These results indicated that all leadership styles in the MLQ were reliably represented by their associated items. In addition, these results also support the reliability results in Bass and Avolio (2004),
which stated that the reliability scores (α) of leadership styles and the outcome of extra effort for the normative database ranged from .70 to .83. Besides that, the Cronbach’s alpha reliability coefficients (α) for officers’ knowledge sharing was .93, indicating that the items were reliably presented in the Knowledge Sharing Questionnaire. This result also supported Sveiby (2002) as he reported that the reliability scores were 0.89, 0.85, 0.88, and 0.81 for organizational culture, immediate supervisor, employee attitude, and work group support, respectively.

Participants responded to the MLQ along the following criteria: 0 = not at all; 1 = once in a while; 2 = sometimes; 3 = fairly often; and 4 = frequently if not always. Besides that, participants responded to the Knowledge Sharing Questionnaire along the following criteria: 0 = strongly disagree, 1 = disagree, 2 = neutral, 3 = agree, and 4 = strongly agree. The mean (M) scores for all leadership styles ranged from 1.76 to 1.94, demonstrating that subordinate officers’ perceptions about their managers’ leadership styles have occur at different degrees. The mean score for transformational leadership behaviors was 1.94, indicating that subordinate officers perceived their leaders as sometimes demonstrating transformational leadership behaviors. These results showed that police supervisors in the Riot Unit demonstrated less transformation leadership behavior than the study of Bass and Avolio (2004), who reported that the aggregate mean score of transformational leadership behaviors for their normative sample was 2.83.

The mean score for transactional leadership behavior was 1.93, indicating that subordinate officers perceived their leaders as “sometimes” demonstrating transactional leadership behavior. This result also revealed that police supervisors in the Riot Unit
demonstrated more transactional leadership behavior (contingent reward, management by exception -- passive and active) than the study of Bass and Avolio (2004), who reported that the aggregate mean score of transactional leadership behavior for their normative sample was 1.84.

The mean score for laissez-faire leadership behavior was 1.76, indicating that subordinate officers perceived their leaders as "once in a while" demonstrating laissez-faire leadership behavior. This result also revealed that police supervisors in the Riot Unit demonstrate more laissez-faire leadership behavior than the study of Bass and Avolio (2004), who reported that the aggregate mean score of laissez-faire leadership behavior for their normative sample was .66.

The mean scores of the leadership outcome, i.e. officers` willingness to exert extra effort, was 1.85, indicating that the subordinate officers are once in a while or at most sometimes willing to exert extra effort. Police officers in the Riot Unit in the TNP are less willing to exert extra effort than the study of Bass and Avolio (2004), who reported that the mean score of extra effort was 2.78. In terms of knowledge sharing, the mean score of 1.99 indicates that the subordinate officers sometimes share their knowledge.

Moreover, the results indicated that no leadership behaviors were often or frequently demonstrated by police supervisors in the Riot Unit. In addition, police supervisors mostly presented both transformational and transactional leadership behaviors compared to laissez-faire leadership behaviors in the Riot Unit. This result also supports the study of Bass and Avolio (2004).
Inferential Statistics

A multivariate analysis (OLS regression) was employed related to the research questions examining the effect of both demographic variables and managers’ leadership styles (transformational, transactional, and laissez-faire) on officers’ willingness to exert extra effort through knowledge sharing. The first research question was “How do line police officers’ perceptions about their managers’ leadership styles affect officers’ willingness to exert extra effort in providing better security?” In order to answer the first research question, seven hypotheses were tested.

Table 5.1

*Summary of the Hypotheses Testing for the Officers’ Willingness to Exert Extra Effort (N = 325)*

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: There is a relationship between police officers’ perceptions about their managers’ transformational leadership style and officers’ willingness to exert extra effort in the Riot Unit.</td>
<td>Supported</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>H2: There is a relationship between police officers’ perceptions about their managers’ transactional leadership style and officers’ willingness to exert extra effort in the Riot Unit.</td>
<td>Not Supported</td>
<td>Not Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3: There is a relationship between police officers’ perceptions about their managers’ laissez-faire leadership style and officers’ willingness to exert extra effort in the Riot Unit.</td>
<td>Not Supported</td>
<td>Not Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H15: There is a relationship between police officers’ knowledge sharing and officers’ willingness to exert extra effort in the Riot Unit.</td>
<td>-</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>H4: There is a relationship between officers’ age and their willingness to exert extra effort in the Riot Unit.</td>
<td>-</td>
<td>-</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>

*(table continues)*
Both the bivariate correlation and OLS regression analyses indicated that when police officers working in the Riot Unit perceive that their managers’ leadership style is transformational, those officers are more willing to exert extra effort in the organization. Likewise, the results of the bivariate correlation analysis demonstrated that there is a statistically significant positive relationship between the transactional leadership style and the officers’ willingness to exert extra effort. However, the OLS regression analyses unexpectedly showed no relationship between these two variables. These findings support several studies related to the relationship between transformational leadership and individuals’ willingness to exert extra effort (Bass & Avolio, 2004; Sparks & Schenk, 2001; Hirst, Dick, & Knippenberg, 2009; Whittington, Goodwin, & Murray, 2004; Schaubroeck, Lam, & Cha, 2007). As stated by Bass and Avolio (2004), in general, transformational leadership behaviors are more effective in terms of individuals’ willingness to exert extra effort because followers who are motivated and inspired by their leaders, whose leaders are respected and trusted, who are encouraged to think differently, whose concerns and developmental needs are treated individually by their leaders, are more likely to be willing to exert extra effort. In addition, Bass (1985) states
that no matter what type the organization and what the position of the individual is, "transformational leadership will contribute in an incremental way to extra effort, effectiveness, and satisfaction as well as to appraise subordinate performance beyond expectations that are attribute to transactional leadership" (p. 229).

Moreover, the results of the bivariate correlation analysis demonstrated that there is a statistically significant negative relationship between the laissez-faire leadership style and the officers` willingness to exert extra effort. In other words, officers` willingness to exert extra effort decreases when they perceive their managers` leadership style as laissez-faire. This result is consistent with the correlation results of Bass and Avolio (2004). In addition, laissez-faire leadership is generally associated with reduced performance (Bass, 1985). However; the regression analysis revealed no relationship between managers` laissez-faire behavior and officers` willingness to exert extra effort. Bass and Avolio (2004) state that leaders who demonstrate laissez-faire leadership behavior are absent when followers need guidelines from their leaders. They prefer to avoid taking part in the decision making process. Consequently, followers are left to their own devices and not sure whether they are doing the job correctly.

In terms of demographic variables, both the bivariate correlation analysis and OLS regression analysis indicated that none of the demographic variables (age, gender, service year, and education) were related to officers` willingness to exert extra effort. Although Mitchell (2000) points out that level of education and age are two dominant factors that affect the attitudes and behavior of workers, the results of this study indicated that there was no relationship between officers` age, education level, and their willingness to exert extra effort. According to the results of the descriptive statistics,
there are not many differences among officers in terms of age and education, which might explain why the age and education level of officers have no effect on their willingness to exert extra effort. On the other hand, Bass and Avolio (2004) state that women leaders are more transformational than their male counterparts in terms of satisfaction and rated effectiveness. In addition, Kabacoff and Stoffey (2001) assert that generational gaps among the members working in an organization have an effect on the behavior of the leader, which, in turn, impacts the outcomes of both the individual and the organization. However, several studies related to age and leadership derived different conclusions. For example, Jurkiewicz (2000) investigated work-rated factors in an organization. These results showed that only three out of 15 work-related factors were identified as significantly differentiated among different age groups (generation-X workers and baby boomers).

The second research question was “How do line police officers’ perceptions about their managers’ leadership styles affect officers’ knowledge sharing in providing better security?” In order to answer the second research question, seven hypotheses were tested. As stated by Senge (1990), a leader’s role is to “design systems which capture, maintain and gain knowledge” (p. 443). Put another way, leaders should have the ability to be aware of what kind of information processes exist in the organization and how the people in the organization might be gathered around that knowledge. The term “Personal Mastery” is used for leadership that “involves formulating a coherent picture of the results people most desire to gain as individuals” (Senge, 2006, p. 67). According to Ewest (2010), knowledge leaders should have the ability to merge people around knowledge and a set of values that are accepted by everyone.
The results of both the bivariate correlation and OLS regression analyses revealed that officers` knowledge sharing increases when riot officers perceive their managers` leadership style as transformational. Likewise, the results of both the bivariate correlation and OLS regression analyses indicated that officers` knowledge sharing increases when they perceive their managers` leadership as transactional as well. Those results support Bass and Avolio (2004), which found that the most effective leadership for a given leader depends on his or her representation of both transformational behaviors (idealized influence [attributed], idealized influence [behavioral], inspirational motivation, intellectual stimulation, and individual consideration) and transactional behaviors. In other words, transformational leadership is complementary to transactional leadership, a phenomenon which Bass and Avalio (2004) term the "augmentation effect."

In addition, the results partially support García-Morales, Lloréns-Montes, and Verdú-Jover (2007), which asserted that transformational leadership has a positive impact on slack knowledge, absorptive capacity, tacit knowledge, organizational learning, and innovation. However; the results related to the positive effect of managers` transformational leadership on officers` knowledge sharing are contrary to the study of Crawford (2005), which found that transactional leadership does not increase knowledge management. These different results might stem from different participants and organizations, e.g. students in graduate program as opposed to officers in a police organization. Furthermore, Politis (2002) found that transformational leadership has a statistically positive effect on the knowledge acquisition of the employees. However, contingent reward (transactional) was found as an impediment to knowledge acquisition
in the same study. Consequently, the results related to the relationship between transformational leadership, transactional leadership, and officers’ knowledge sharing partially supported Politis (2002).

Surprisingly, neither the bivariate correlation nor the OLS regression analyses found a relationship between perceived laissez-faire leadership and officers` knowledge sharing. However, in the study of Crawford (2005), laissez-faire leadership was found as an inhibitive factor for knowledge management.

Among the control variables, only officers` years of service in the TNP was found to have a significant positive impact on officers` knowledge sharing. In other words, police officers who served more years in the TNP have more tendencies to share their knowledge. Other control variables (age, gender, and education level) were found to have no effect on officers` knowledge sharing. In terms of the impact of gender on knowledge sharing, Connelly (2003) found that women who have more positive social interaction are more likely to share their knowledge in their organization. Contrary to Connelly (2003), there was no effect of gender on knowledge sharing in the results of this study, owing perhaps to a harmony between men and women officers in the Riot Unit. That harmony may cause both men and women officers to feel that there is no distinction in terms of gender for knowledge sharing inside the Riot Unit.

As stated in descriptive statistics, no huge age and education differences exist in the Riot Unit among officers, which might explain other results of that study --namely, age and education levels having no effect on officers` knowledge sharing.

The third research question was “How does line police officers’ knowledge sharing affect their willingness to exert extra effort in providing better security?” In order
to answer the third research question, two hypotheses were tested. As proposed, both
the bivariate correlation and OLS regression analyses indicated that when police
officers’ knowledge sharing increases; they are more willing to exert extra effort in the
organization.

Table 5.2

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>H8: There is a relationship between police officers’ perceptions about their managers’ transformational leadership style and officers’ knowledge sharing in the Riot Unit.</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>H9: There is a relationship between police officers’ perceptions about their managers’ transactional leadership style and officers’ knowledge sharing in the Riot Unit.</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>H10: There is a relationship between police officers’ perceptions about their managers’ laissez-faire leadership style and officers’ knowledge sharing in the Riot Unit.</td>
<td>Not Supported</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H11: There is a relationship between officers’ age and their knowledge sharing in the Riot Unit.</td>
<td>-</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H12: There is a relationship between officers’ education level and their knowledge sharing in the Riot Unit.</td>
<td>-</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H13: There is a relationship between officers’ service year in TNP and their knowledge sharing in the Riot Unit.</td>
<td>-</td>
<td>Supported</td>
</tr>
<tr>
<td>H14: There is a relationship between officers’ gender and their knowledge sharing in the Riot Unit.</td>
<td>-</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>

As stated by Cohen and Levinthal (1990), sharing different and varied knowledge
between individuals increases the organization’s ability more than an individual can
accomplish alone. Knowledge sharing is important as it enables knowledge to move
from the individual to the organizational level, which in turn impacts the competitive
value of the organization (Hendriks, 1999). Knowledge sharing among individuals
facilitates the spread of innovative ideas, which is an important factor for the creativity of
the individuals and their organizations (Armbrecht, Chapas, Chappellow, & Farris,
Likewise, different and diverse knowledge shared by riot officers leads to the dissemination of innovative ideas and causes the officers themselves to be creative, which in turn, increases their willingness to exert extra effort.

As expected, the results of the mediation analysis demonstrated that the impacts of managers` transformational leadership on officers` willingness to exert extra effort were mediated by officers` knowledge sharing. In other words, managers` transformational leadership has both positive direct and indirect effects on officers` willingness to exert extra effort. One of the most interesting mediation results was related to the relationship between managers` transactional leadership and officers` willingness to exert extra effort and likewise the relationship between officers` service years in the TNP and officers` willingness to exert extra effort. If only the OLS analyses had been used in this study, the researcher would conclude that managers` transactional leadership did not have a statistically significant effect on officers` willingness to exert extra effort. Even though managers` transactional leadership does not have a direct effect on officers` willingness to exert extra effort in the OLS analysis results, according to the mediation analysis results, managers` transactional leadership is mediated by officers knowledge sharing. This is to say, managers` transactional leadership has an indirect effect on officers` willingness to exert extra effort. As with the case of transactional leadership, if only the OLS analyses had been used in this study, the researcher would have concluded that officers` service years in the TNP did not have a statistically significant effect on their willingness to exert extra effort. However, officers` service years in the TNP was mediated by their knowledge sharing and had statistically significant indirect effect on their willingness to exert extra effort in the
results of the mediation analyses. Based on these analyses, these results support Bass and Avolio’s claim (2004) that a leader may represent both transformational and transactional behaviors according to different situations.

Theoretical and Methodological Implications

Several studies have been performed related to transformational theory in different working environments with an emphasis on revealing the relationship between transformational leadership and individuals’ willingness to exert extra effort; however, transformational leadership theory has not been tested on the Riot Unit of the TNP in Ankara before. As previously stated, law enforcement units have different culture and working environments. Crucially, riot officers have working environments that present both physiological and physical difficulties. What makes this study important is that transformational theory was tested in this never-before-studied environment. Therefore the results will make a valuable contribution to the leadership literature and transformational theory. This study generally supported Bass and Avolio’s (2004) claim that a police leader may demonstrate both transformational and transactional behaviours depending on the situations.

This study distributed a cross-sectional survey to line police officers working in the Riot Unit of the TNP in Ankara. Both an MLQ (5X-Short) form and the Knowledge Sharing Questionnaire were utilized as the survey instruments. The researcher used contingent reward, referring to leaders who clarify their expectations to their subordinates and provide rewards in reply to their positive work performance, under the transactional leadership variable. Contingent reward could be evaluated as another
independent variable in order to see its effect on line police officers` knowledge sharing, which in turn, impacts on their willingness to exert extra effort.

**Professional Implications**

This study has important implications for both police supervisors and information professionals. First of all, according to the results of this study, line police officers` willingness to exert extra effort is positively influenced by their managers` both transformational and transactional leadership behaviours. Although managers` transactional leadership style had no direct effect on officers` willingness to exert extra effort, it had an indirect effect through officers` knowledge sharing. Therefore, police supervisors and information professionals need to demonstrate both transformational and transactional behaviours according to different situations. Otherwise, concentrating only transformational leadership to the deficit of transactional leadership or vice versa might cause unintended adverse effects (Bass & Avolio, 2004).

In addition, according to the findings of this study, officers` knowledge sharing is positively influenced by their managers` both transformational and transactional leadership behaviours. Especially in Riot Units, sharing explicit and implicit knowledge among riot officers is an important factor that might prevent them from repeating the same mistake and increase their experience while providing security in all legal and illegal demonstrations and riots. Thus, police supervisors should be encouraged to demonstrate both transformational and transactional leadership styles to increase knowledge sharing in police organizations. As indicated by several studies (Bennis & Nanus, 1985; Davis, 2003; Sidle, 2005) leadership skills can be learned; therefore,
sufficient leadership and knowledge management training led by professional instructors should be provided to all police supervisors working in different departments in the Turkish National Police (TNP), including the Riot Units. The training should have a comprehensive curriculum including theoretical and practical information. First, the curriculum should explain the importance of leadership styles of police supervisors for subordinates’ willingness to exert extra effort, knowledge sharing, and more generally, overall TNP’s performance as well. Second, the curriculum should cover the major leadership theories and present an overview of knowledge management to give a general idea of why these two factors are important to the organization. Second, after giving theoretical information about leadership styles and theories, the advantages and disadvantages of different leadership styles in different working environments (public, private, and law enforcement) should be stated in terms of their effect on knowledge sharing and management. Finally, for practical information, the curriculum should include real leadership problems faced in the TNP in terms of directing police supervisors’ attention to what kinds of leadership have a positive effect on willingness to extra effort and knowledge sharing in the TNP.

As stated in Bartol and Srivastava (2002), knowledge sharing in organizations has an important impact on knowledge creation, organizational learning, and performance achievement. Especially, knowledge sharing among riot officers is of critical importance in providing security in all legal and illegal riots and demonstrations. According to Lahneman (2004), an organizational culture that supports and rewards knowledge sharing is required to structures successful knowledge management in law enforcement. In this respect, both police supervisors and information professionals may
employ the contingent reward, one of the components of transactional leadership, as an incentive to generate a positive effect on the knowledge sharing of individuals in the organization. For example, riot police supervisors may draft evaluation criteria about knowledge sharing behaviors of the officers and provide rewards in exchange for their contributions of knowledge sharing behaviors in the Riot Unit. This might not only increase the knowledge sharing behaviors of officers but also augment their willingness to exert extra effort in all legal and illegal demonstrations and riots in providing better security. However, simply giving a reward will not provide the intended results unless efficient guidelines for rewards of value and clear goals are stated (Bartol & Locke, 2000).

Most of the managers are not aware of how important their role is bolstering knowledge sharing in their organization though they assert that knowledge is one of the most valuable resources in the organization (Berg, Dean, Gottschalk, & Karslen, 2008). Being a reflective practitioner is important for knowledge sharing in a police organization (Holgersson, 2007). Therefore, police supervisors need to encourage officers to be reflective practitioners. Without a sufficient dialogue between police supervisors and officers, knowledge management policies geared towards increasing knowledge sharing will not work even if they are well-formulated. Thus, if needed, police supervisors need to support officers through clear channels of communication in order to be active participants in the environment of police work.

The four key behaviors of transformational leadership may be utilized by all managers including riot supervisors to boost the subordinates’ willingness to exert extra effort and knowledge sharing in the organization. First, through idealized influence,
police supervisors may build confidence in their subordinates, which is an important accelerant while implementing a radical change in organization. In addition, that confidence will cause officers to believe and appreciate their supervisors, which in turn increases their willingness to exert extra effort. Moreover, through police supervisors’ idealized influence behavior, police officers will feel that their supervisors demonstrate high moral and ethical behavior and use their positions to accomplish the aims of organization. That kind of feeling encourages officers to share their knowledge in the organization.

Second, through inspirational motivation, police supervisors may inspire and motivate their followers by showing enthusiasm and optimism, pointing out positive results, and supporting teamwork. Such behaviors might not only increase officers’ willingness to exert extra effort but also boost knowledge sharing in the organization.

Third, through intellectual stimulation, police supervisors may stimulate the efforts of officers to reveal their innovative ideas and creativities to solve problems. They may also stimulate a change in the mode of thinking about problems. Especially, such behaviors might encourage officers to exert extra effort beyond expectation and increase their sharing of knowledge as followers are not criticized for expressing their problem-solving ideas even though those ideas might be different from their managers.

Finally, through individualized consideration, police supervisors may evaluate each officer individually and try to respond to their different needs and wishes in the right way. With the acceptance of individual differences of officers, police supervisors might assign tasks according to each officer’s different level of needs and specifications, which in turn increase officers’ willingness to exert extra effort beyond expectation.
Limitations and Future Recommendations

The goal of this study was to examine the effect of line police officers’ perceptions about their managers’ leadership styles on their knowledge sharing, which in turn impacts their willingness to exert extra effort. Although this study has many valuable findings, as in the other research studies, this study naturally has some limitations.

The first limitation is related to the generalizability of the findings. The researcher distributed this survey study to line police officers working in one of the biggest Riot Units of the TNP in Ankara, Turkey to investigate the effect of leadership styles on knowledge sharing, which in turn impacts willingness to exert extra effort. However, each Riot Unit has a different number of officers (size), structure type (force, group, and team), and characteristics which may affect the results. In addition, each Riot Unit is in a different region or city; this diversity of situations might affect the perception of police officers about their managers’ leadership. For example, police officers working in Riot Units in the east part of Turkey face more terrorist activities than police officers working in the west part of Turkey. Because of this reason, perceptions of police officers about their managers’ leadership might be different according to different regions. Therefore, the results of this study should be viewed with consideration of these issues in generalizability. Future studies should pay attention to these factors and might conduct the same survey to different Riot Units in different regions to analyze more deeply the perception of police officers about their managers’ leadership styles.

Second, the bias of line police officers might have affected the results of the current study. Some of the police officers might have given intentionally positive
responses to the leadership questions in order to maintain a good relationship with their supervisors.

Finally, the researcher employed a quantitative research design. However, simply employing a qualitative study to measure the perception of police officers about their managers` leadership styles might not be sufficient to understand the general picture of police leadership. Therefore, future researchers are recommended to conduct both qualitative and quantitative research in their studies to understand more deeply the perceptions of officers about their managers` leadership styles.
APPENDIX A

PERMISSION LETTER FROM THE MIND GARDEN COMPANY
To whom it may concern,

This letter is to grant permission for the above named person to use the following copyright material;

Instrument: *Multifactor Leadership Questionnaire*

Authors: *Bruce Avolio and Bernard Bass*

Copyright: *1995 by Bruce Avolio and Bernard Bass*

for his/her thesis research.

Five sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any other published material.

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

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Published by Mind Garden, Inc., www.mindgarden.com
APPENDIX B

RESEARCH ETHICS COMMITTEE APPROVAL LETTER
May 7, 2010

Dr. Jiangping Chen
Department of Library and Information Sciences
University of North Texas

IRB: Human Subjects Application No. 16-215

Dear Dr. Chen,

In accordance with 45 CFR Part 46, Section 46.101, your study titled "The Impact of Leadership Styles and Knowledge Sharing on Police Officers' Willingness to Exert Extra Effort: A Study in Rural Units of Turkish National Police" has been determined to qualify for an exemption from further review by the UNT Institutional Review Board (IRB).

Enclosed is the consent document with stamped IRB approval. Please copy and use this form only for your study subjects.

No changes may be made to your study's procedures or forms without prior written approval from the UNT IRB. Please contact Jordan Smith, Research Compliance Analyst, ext. 37490, if you wish to make any such changes. Any changes to your procedures or forms after 3 years will require completion of a new IRB application.

We wish you success with your study.

Sincerely,

Patricia L. Kurzanski, Ph.D.
Associate Professor
Chair, Institutional Review Board

PK.js
APPENDIX C

INFORMED CONSENT FORM
Before participating in this study, it is important that you read the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

**Title of Study:** “The Impact of Leadership Styles and Knowledge Sharing on Police officers' Willingness to Exert Extra Effort: A Study in Riot Unit of Turkish National Police”

**Responsible Investigator:** The study is conducted under the supervision of University of North Texas (UNT) faculty Dr. Jiangping Chen from the Department of Library and Information Sciences.

**Purpose of the Study:** The purpose of this research is to examine the effects of police officers' leaders' leadership styles on police officers’ knowledge sharing, which, in turn, affects officers' willingness to exert extra effort in the Riot Unit of Turkish National Police. A cross-sectional survey design will be utilized to answer the following questions:

RQ: 1. How do line police officers’ perceptions about their managers' leadership styles affect officers’ willingness to exert extra effort in providing better security?

RQ: 2. How do line police officers’ perceptions about their managers' leadership styles affect officers’ knowledge sharing in providing better security?

RQ: 3. How does line police officers' knowledge sharing affect their willingness to exert extra effort in providing better security?

**Study Procedures:** Participation in the study is voluntary and there is no risk or liability for participation or withdrawal. The survey you will be asked can take approximately 10-15 minutes to complete.
**Foreseeable Risks or Benefits:** This study is not expected to have any foreseeable risks or direct benefit to you. However, the findings of this study can help police managers to give them an idea about which leadership styles increase knowledge sharing, which, in turn, increase officers’ willingness to exert extra effort in police organizations. The findings will also serve as guidance for police managers commanding line police officers in a high-risk environment such as social movements, demonstrations, and riots. Because they will be aware of how important it is to create a knowledge sharing environment that enables sharing with their subordinates to provide better security in gatherings.

**Maintaining Confidentiality of Research Records:** Personal identifiable information will not be collected and the confidentiality of personal information (if any) will be maintained in publications or presentations. You may print and keep this page for your records.

**Questions about the Study:** If you have any questions about the study, you may contact Dr. Chen via email [jpchen@unt.edu](mailto.jpchen@unt.edu)

**Review for the Protection of Participants:** This research study is reviewed and approved by the UNT Institutional Review Board (IRB). University IRB can be contacted at (001-940) 565-3940 with any questions regarding the rights of research subjects.

In order to participate in this study please continue to the next page.

Thanks for your contributions.
APPENDIX D

DEMOGRAPHICS
<table>
<thead>
<tr>
<th><strong>1. What is your gender?</strong></th>
<th><strong>2. What is your age?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>__Male ___Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. For how many years have you</strong></td>
<td><strong>4. For how many years have you</strong></td>
</tr>
<tr>
<td>been working in Ankara Riot Unit?</td>
<td>been working in police force?</td>
</tr>
<tr>
<td>........ Years</td>
<td>........ years.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5. For how many years have you</strong></td>
<td><strong>6. What is the highest level of</strong></td>
</tr>
<tr>
<td>been working in other departments</td>
<td>education completed?</td>
</tr>
<tr>
<td>except for Riot Unit?</td>
<td>1. Middle School</td>
</tr>
<tr>
<td>........</td>
<td>2. High school</td>
</tr>
<tr>
<td></td>
<td>3. Two-year College</td>
</tr>
<tr>
<td></td>
<td>4. University</td>
</tr>
<tr>
<td></td>
<td>5. Masters</td>
</tr>
<tr>
<td></td>
<td>6. Doctorate</td>
</tr>
</tbody>
</table>
APPENDIX E

MULTIFACTOR LEADERSHIP QUESTIONNAIRE RATER FORM (5X-SHORT)

(EXAMPLE)
This questionnaire is used to describe the leadership style of your immediate supervisor as you perceive it. Answer all items on this answer sheet. **If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.** Please answer this questionnaire anonymously.

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits your most current supervisor that you have had for at least three months. Use the following rating scale:

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, if not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

The person I am rating …

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, if not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provides me with assistance in</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>exchange for my efforts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Re-examines critical assumptions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>to question whether they are</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>appropriate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Fails to interfere until problems</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>become serious</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
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<td>----------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
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</tr>
<tr>
<td>4.</td>
<td>Focuses attention on irregularities,</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>mistakes, exceptions, and</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>deviations from standards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Avoids getting involved when</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>important issues arise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Talks about his/her most important</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>values and beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Is absent when needed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>Seeks differing perspectives when</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>solving problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Talks optimistically about the future</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>Instills pride in me for being</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>associated with him/her</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Discusses in specific terms who is</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>responsible for achieving</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>performance targets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Waits for things to go wrong before</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>taking action</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX F

MULTIFACTOR LEADERSHIP QUESTIONNAIRE
SCORING KEY (5X) SHORT
MLQ Multifactor Leadership Questionnaire
Scoring Key (5x) Short

My Name: ___________________________ Date: ________________
Organization ID #: __________________ Leader ID #: __________________

Scoring: The MLQ scale scores are average scores for the items on the scale. The score can be derived by summing the items and dividing by the number of items that make up the scale. All of the leadership style scales have four items, Extra Effort has three items, Effectiveness has four items, and Satisfaction has two items.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, if not always</th>
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| Idealized Influence (Attributed) total/4 = | Management-by-Exception (Active) total/4 = |
| Idealized Influence (Behavior) total/4 = | Management-by-Exception (Passive) total/4 = |
| Inspirational Motivation total/4 = | Laissez-faire Leadership total/4 = |
| Intellectual Stimulation total/4 = | Extra Effort total/3 = |
| Individualized Consideration total/4 = | Effectiveness total/4 = |
| Contingent Reward total/4 = | Satisfaction total/2 = |

1. Contingent Reward ........................................ 0 1 2 3 4
2. Intellectual Stimulation .................................. 0 1 2 3 4
3. Management-by-Exception (Passive) .................... 0 1 2 3 4
4. Management-by-Exception (Active) ....................... 0 1 2 3 4
5. Laissez-faire ............................................. 0 1 2 3 4

6. Idealized Influence (Behavior) .......................... 0 1 2 3 4
7. Laissez-faire ............................................. 0 1 2 3 4
8. Intellectual Stimulation .................................. 0 1 2 3 4
9. Inspirational Motivation .................................. 0 1 2 3 4
10. Idealized Influence (Attributed) ....................... 0 1 2 3 4

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12. Management-by-Exception (Passive) .................... 0 1 2 3 4
13. Inspirational Motivation .................................. 0 1 2 3 4
14. Idealized Influence (Behavior) .......................... 0 1 2 3 4
15. Individualized Consideration ............................ 0 1 2 3 4

Continued =>

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</tbody>
</table>
APPENDIX G

KNOWLEDGE SHARING QUESTIONNAIRE (EXAMPLE)
1. **Workgroup Support:** When you think about the attitudes and behaviors’ of those in your nearest work group, how much do you agree/disagree with the following statements?

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. There is much I could learn from colleagues in my workgroup.

2. My colleagues contribute to a trusting atmosphere in our workgroup.

2. **Immediate Supervisor:** To what extent do you agree with the following?

   My immediate supervisor(s)…?

<table>
<thead>
<tr>
<th>6. ...encourages me to come up with innovative solutions to work-related problems.</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tr>
<td>7. ...organizes regular meetings to share information.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>
3. (Department) Culture outside my nearest workgroup: When you think about this organization culture outside my immediate work group and the behavior of leaders, how much do you agree/disagree with the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. The people I report to in the organization keep me informed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. Sharing of knowledge is encouraged by the organization in action and not only in words.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

4. My own Attitude: When you think about your own attitude toward sharing knowhow, how much do you agree/disagree with the following statements? Think about the organization in general!

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Most of my expertise has developed as a result of working together with colleagues in this organization.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. Sharing information translates to deeper knowledge in this organization.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Combining the knowledge amongst staff has resulted in many new ideas and solutions for this organization.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX H

SCATTERPLOTS
Figure H.1. Residuals plot for the first regression model.
Figure H.2. Residuals plot for the second regression model.
Figure H.3. Residuals plot for the third regression model.
Figure H.4. Residuals plot for the first regression model (knowledge sharing).
Figure H.5. Residuals plot for the second regression model (knowledge sharing).
REFERENCES


