THE INFORMATION-SEEKING BEHAVIOR OF POLICE OFFICERS IN TURKISH NATIONAL POLICE

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A current trend that has emerged as a result of the information age is information-seeking behavior. From individuals to large social institutions, information-seeking behavior is utilized to attain a wide variety of goals. This body of work investigates the information-seeking behaviors of police officers who work in police stations in the Turkish National Police force.

The study utilizes Leckie et al.'s (1996) model of information-seeking behavior of professionals. The findings indicated that police officers initially consulted their personal knowledge and experience. Next, officers rely upon their colleagues and then official documents. These information source were consulted in the context of both conducting tasks and staying current.

However, contrary to expectation, they rarely consulted informants. In addition police officers rarely consulted printed journals, libraries, books and attendance at conferences as information sources. The results of this study show that there were significant differences in the information sources used by police officers based on their gender in the context of staying current. On the other hand, there were no significant differences in the context of conducting police station tasks, by gender.

Surprisingly, there were no significant differences in the information sources used by police officers based on their educational level. There were significant differences in the use of information sources by age, service years in police stations and service years in policing in the context of conducting police station tasks.

Lastly, the results of this study indicated that service years in policing and the roles in police station were significantly correlated with the information sources used by police officers regarding staying current. This body of work offers insight into the factors that guide the information-seeking behaviors of police officers.

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CHAPTER 1

INTRODUCTION

Introduction

Information-seeking behavior in modern times is a powerful concept and an integral part of our lives. Not only does the individual seek information to achieve their goal, but also different organizations practice information-seeking behavior in order to accomplish their needs. Information-seeking behavior has become an intricate part of every aspect of society.

Earlier studies have examined information behavior in different occupations (e.g. engineers, nurses, and lawyers); however, work-related information behavior of police has received little attention (Baker, 2004). Since the police profession is a time-critical and knowledge-intensive profession, understanding the information-seeking behavior of police officers is of vital importance. Police officers who work in police stations need to deal with a continuous information flow. This information is vital and necessary to keep up with the requirements of their job in every aspect.

The purpose of this study is to determine the information-seeking behaviors of police officers who work in police stations in the Turkish National Police (TNP). This study may be helpful to motivate scholars to move forward regarding the understanding of information-seeking behavior of other police units.

Conceptual Definitions

Before getting into the specific discussion of this issue, we need to define the three terms: *information, information behavior* and *information-seeking behavior*.

Because these terms have varied definitions across multiple fields of study, it is essential to define how they are used in this study. The first term is "information." There is no consistent definition of information. Several scholars define information based on different concepts from their fields and related perspectives and theories; therefore, it is difficult to find a common definition of information among scholars. Information science covers several traditions, concepts and approaches each with its own meaning and knowledge domain in different field, but all of them are called information science (Zins, 2005).

Wersig and Neveling (1976) and Schement (1993) found several unique definitions of information in their writings. Various definitions of information developed to stand for numerous concepts. For example, according to Case (2007), the term information also refers to a number of processes and actions including "… sensory stimuli, mental representations, problem solving, decision making, an aspect of human thinking and learning, states of mind, the process of communication, judgments about the relevance of information to information needs…" (p. 43).

Shannon and Weaver (1949) used mathematical communication theory to explain what information is. According to this theory, a signal or message is information that is transmitted from a source to a destination. Entropy is the term used for information so that from this point, more entropy refers to more information. However, Bates (2003) points out that information is not totally covered by entropy. According to Bates (2003), "information is the pattern of organization of the matter of rocks, of the earth, of plants, of animal bodies, or of brain matter. . ." (p. 1033). Information can take more than a mere physical form.

Like other scholars, Buckland (1991) also emphasies the difficulty with definition of information. Instead of a specific definition of information, he identifies three different principals of the term: information-as-knowledge, information-as-process, and information-as-thing. For Buckland, information-as-process refers to the process of informing. Meaning that when an individual's attitude is changed through informing, they are unaware of the change. The next principal usage of information is information-as-knowledge. In this sense, information is "used to denote that which is perceived in 'information-as-process'" (p. 351). The last one, information-as-thing, may refer to objects such as data. It is more tangible as compared to the other principles. Buckland explains, "it is the only form of information with which information systems can deal directly. People are informed not only by intentional communications, but by a wide variety of objects and events" (p. 359). Therefore, Buckland highlights the term information-as-thing.

Wilson (2006) also focuses on the difficulty of having no specific definition of information. Wilson determined that the main difficulty is related to the multiple usages of information that bring about confusion among researchers. Wilson states that researchers are often unclear about which sense they are referring to and sometimes do not clarify between different senses (p. 659). Therefore, the problem regarding the definition of information doesn't stem from the lack of an appropriate definition of the term, rather, it is related to inaccurate, incomplete, and multiple uses of the term.

Many information science researchers consider Saracevic's works important and use them for stepping stones to further the field. Saracevic (1999) focused on interpreting information in terms of the cognitive processes and the context of the

information. Context is important since contextual factors outline information.

Taken together, Case (2007) summarizes the problematic issues regarding the definition of information. He enumerates five assumptions for defining information: utility, physicality, structure/process, intentionality, and truth. Information requires utility: that is, it reduces uncertainty and provides some kind of usefulness for humans. Information should be in a form of physicality such as data, a book, or a video, that is, it must be observable. Information should be structured and processed. Information should have some purpose, and the last assumption is truth. Information should be true. Otherwise, it is misinformation. Case (2007) concludes that there is not a common definition of information accepted by scholars since there is a lack of consensus regarding the characteristics of information. According to Case, the debate among scholars is still going on for the objective and subjective meaning of information.

The next term, information behavior, is a complex phenomenon since several factors such as individuals' personal characteristics and social structures are involved in the shaping of information-seeking behavior. Wilson (2000) defined information behavior as follows:

> Information Behavior is the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking, and information use. Thus, it includes face to-face communication with others, as well as the passive reception of information as in, for example, watching TV advertisements, without any intention to act on the information given. (p. 49)

Similar to Wilson's (2000) definition, according to Case (2006), "Information Behavior includes purposive information seeking; serendipitous encountering of information; and the giving, sharing, and use of information" (p. 293). Besides this definition, Fisher and Julien's (2009) definition of information behavior is as follows: "information behavior focuses on people's information needs; on how they seek,

manage, give, and use information, both purposefully and passively; in the varied roles that comprise their everyday lives" (p. 317).

The next term, information-seeking behavior, is also defined by many scholars in different ways. For example, Dervin and Nilan (1986) focus on the person doing the seeking, rather than the data being sought or the process by which it is sought, and on the other hand, Marchionini (1995) describes information-seeking as "a process in which humans purposefully engage in order to change their state of knowledge" (p. 5). Wilson (2000) defines information-seeking behavior as "the purposive seeking for Information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems (such as a newspaper or a library), or with computer-based systems" (p. 49). This study is mainly concerned with information-seeking behavior as defined by Wilson (2000) since many academicians have credited him in their own works. In addition, Wilson's (2000) definition information-seeking behavior is more comprehensive and concrete with regard to this study.

Problem Statement

Studying the Information-seeking behavior of officers in police stations is significant because police stations are where officers communicate with the public most frequently and continuously. Officers who work in police stations represent the forefront of the whole organization in their jurisdictions. In addition, understanding the information needs of officers who directly communicate with citizens about daily problems would enable managers to improve the efficiency and effectiveness of police organization. Therefore, studying the information needs and information-seeking

behavior of police officers who are working in the police stations is necessary.

Law enforcement is a crucial profession. Officers carry out their job for two major reasons: preventing criminal activities and establishing justice. In order to fulfill these functions, police officers must search for and collect all necessary information in order to be effective. However, recent studies indicate that police officers experience difficulty reaching information sources and disseminating information pertinent to their job (Demircioglu, 2010; Kilic, 2010). As a result insufficient information makes police less effective at preventing crime and providing justice.

Baker (2004) studied police officers by utilizing Leckie, Pettigrew, and Sylvain's (1996) model and suggested that the information-seeking behavior of police officers needs to be examined in a different context. This study incorporates that perspective while validating a model of information behavior (Leckie et al., 1996).

This study contributes to the discipline of information science by validating a theoretical model in a different context. Moreover, it contributes to public safety by understanding the frontline police officers' information needs and information-seeking behavior. When law enforcement does not have current and accurate information or efficient informational processes, the safety of the general public is at risk, which makes studies like this one of vital importance. Finally, this study will also be a reference for future studies for researchers who want to study Information-seeking behavior of police officers.

Purpose of the Study

The purpose of this study is to determine the information-seeking behavior of

police officers who work in police stations in the Turkish National Police (TNP) in Turkey. The study utilizes Leckie et al.'s (1996) model of information-seeking behavior of professionals. The findings may be very helpful for the Turkish National Police to satisfy and evaluate the information needs of police. This may provide a foundation to establish policy for disseminating information to police officers. Based on the findings, appropriate training and programs might be developed for police officers who work in the police stations of the Turkish National Police.

Significance

This study is one of the first in the area of information-seeking behavior regarding police officers in police stations. This study will be a pioneer study for future usage. Based on the findings of this study, the current educational policies in the TNP might be adjusted regarding information-seeking behavior of police officers who work in police stations.

In this study, Leckie et al.'s (1996) model of the information-seeking behavior of professionals is tested. If the theoretical aspect of this model explains information-seeking behavior of police officers who work in police stations, the framework might be suggested for use in further studies. This study might also provide researchers in the field of information science a model to test on other public services such as traffic unit servicing. Therefore, this study being the first provides a huge theoretical base for future studies.

Research Questions and Hypotheses

R1. To what extent is there a relationship between the information sources used by police officers in the context of conducting police station tasks and their socio-demographic characteristics (age, education, gender, service years in policing, and service years in police stations)?

H_1: There are significant differences in the information sources used by police officers based on their educational level in the context of conducting police station tasks.

H_2: There are significant differences in the information sources used by police officers based on their service years in policing in the context of conducting police station tasks.

H_3: There are significant differences in the information sources used by police officers based on their service years in police stations in the context of conducting police station tasks.

H_4: There are significant differences in the information sources used by police officers based on their gender in the context of conducting police station tasks.

H_5: There are significant differences in the information sources used by police officers based on their age in the context of conducting police station tasks.

R2. To what extent is there a relationship between the information sources used by police officers in the context of keeping up-to-date and their socio-demographic characteristics?

H_6: There are significant differences in the information sources used by police officers based on their educational level in the context of keeping up-to-date.

H_7: There are significant differences in the information sources used by police officers based on their service years in policing in the context of keeping up-to-date.

H_8: There are significant differences in the information sources used by police officers based on their service years in police stations in the context of keeping up-to-date.

H_9: There are significant differences in the information sources used by police officers based on their gender in the context of keeping up-to-date.

H_{10}: There are significant differences in the information sources used by police officers based on their age in the context of keeping up-to-date.

R3. Will different roles influence different information sources used by police officers working in police station?

H_{11}: There are significant differences in the information sources used by police officers based on their roles in the context of keeping up-to-date.

H_{12}: There are significant differences in the information sources used by police officers based on their roles in the context of conducting police station tasks.

CHAPTER 2

LITERATURE REVIEW

Introduction

Modern societies are information based societies. According to Beniger (1986), information has the power to make changes in individual behaviors from information processing to communicating with others. The manipulation and control of information and communication are important at both the individual and societal levels. Therefore, information behavior is a valuable asset for all levels of society. Advancements in information technology over the last half century have led to a huge increase in the amount of availability of information. With modernity, information needs and information sources have become more and more important for professionals.

Today, human beings need and seek information far more than in previous times due to the complexity of modern life and technology. The complexity of information-seeking also brings its own limitations, which are not easily explained. Several researchers in the field of information science have addressed this topic (Kim & Jeong, 2006). Information-seeking behavior in modern times is a powerful concept and an integral part of our lives. Not only does the individual seek information to achieve his or her goal, but organizations also practice information-seeking behavior in order to meet their needs. Every person, profession, organization and governmental agency has some type of need that can only be satisfied by seeking information needed by the organization and the behaviors entailed in finding that information. This study may help fill in some of the gaps in our understanding of the information-seeking behavior of other professionals. Understanding the information-seeking behavior of professionals is also

important for assessing the effects of different professions on an individual's information-seeking behavior. In this sense, this may help shine a light on the information-seeking behavior of police officers working in police stations.

This section provides an overview of literature regarding the historical background of information-seeking behavior of professionals, including scientists, engineers, lawyers, medical providers, and police officers. Finally, Leckie et al.'s (1996) model is presented and examined.

Information-Seeking Behavior of Professionals

In this study, Leckie et al.'s (1996) model of professionals' information-seeking is utilized. As a profession, law enforcement has a very important role in establishing social order in society. However, law enforcement has not been sufficiently studied as an area of research by behaviorists and academics in terms of the information-seeking behavior of police officers. A literature review has not produced any studies, revealing the deficiencies of this area.

The origins of human information-seeking behavior studies date back to shortly after World War II (Wilson, 2000). According to Wilson (2000), the Royal Society Scientific Information Conference (1948) in London, the International Conference on Scientific Information (1958) in Washington, and the United Kingdom's Advisory Council on Scientific Policy's studies (1965) were the important cornerstones for future information-seeking behavior studies.

In the early 1960s, researchers began to focus on the information-seeking behavior of scientists and scholars (Fisher & Julien, 2009; Anderson et al., 2001).

Library information researchers especially extended information-seeking behavior of professionals beyond the professions of scientist and scholar to other professions such as doctors, engineers, librarians, nurses, lawyers, teachers, clergy, and other business-related occupations in the late 1970s and early 1980s (Fisher & Julien, 2009; Leckie et al, 1996). Additionally, researchers have focused on information-seeking behavior of professionals since the 1960s (Anderson et al., 2001).

Consequently, information-seeking behavior is one of the most frequently researched areas of social information (Jarvelin & Vakkari, 1990; Kim & Jeong, 2006; Pettigrew & McKechnie, 2001). Information-seeking behavior of professionals is considered an important concentration area under the umbrella of information-seeking behavior. The information-seeking behavior of engineers, medical providers, and scientists has also been studied more often by researchers (Leckie et al, 1996).

Finally, there is a large body of literature addressing the information-seeking behavior of scientists, managers, attorneys, engineers, lawyers and medical providers (Leckie et al, 1996). These occupations have strong similarities with law enforcement officers in police stations in their needs for information and in their information-seeking behavior (Fisher & Julien, 2009).

Scientists

The information-seeking behavior of scientists has been extensively studied during the last three decades. It is one of the most researched areas among the professions. One study conducted by Von Seggern (1995) revealed that scientists firstly consult their own collection of information. If they are not satisfied with that

collection then they will consult their colleagues and friends. According to Von Seggern (1995), they barely use the library as a source of information. In addition, the scientists are more likely to use informal communication than formal communication for pursuing information needs. Cabrajec and Dukic (1991) came to the same conclusion conducting a study among Croatian scientists and revealing that a great number of Croatian scientists prefer informal communication before delving deeper.

Flaxbart (2001) concluded that chemists and biochemists use electronic journals through database systems first because these systems save time and provide convenient access to more journals. However, Murphy's (2003) study indicated that scientists have difficulties related to collected information in terms of administrating their time efficiently.

In another study, Majid, Anwar, and Eisenschitz (2000) conducted a survey of 234 agricultural scientists. According to their findings, agricultural scientists consult print materials for staying current. In addition, they also prefer informal communication and consulting their colleagues (Majid et al, 2000). Overlapping with Majid and his colleagues' findings, Nweke (1995) and Frank's (1987) studies revealed that agricultural scientists prefer informal communications rather than formal communication for gathering information.

In order to understand information-seeking behavior of research scientists, Ellis and Haugan (1997) conducted a qualitative research. They interviewed scientists who are working in a gas and oil company in Norway. They recognized that the type of research project in which an individual was involved shaped their information-seeking behavior. They categorized three types of projects. They are incremental, radical, and

fundamental. The incremental research projects have low risks and assure small rewards. In these projects, the scientists first use their own collection, and then consult their colleagues. They prefer informal communication and use internal reports rather than journals. They use sources in the library as a last option. The radical projects have high risks and at the same time have high rewards. In these projects, the scientists initially use their personal knowledge, and then consult their colleagues. Similar to the scientists in the incremental research projects, they use informal communication rather than formal communication. In addition, they also use print and electronic material such as review articles and scientific journals (Ellis & Haugan, 1997). Finally, the fundamentalist research projects have high risks but are less likely to result in high rewards. The researchers primarily use their knowledge and experience in their information-seeking behavior, and besides that, they use sources in the library. They also resort to their colleagues. In these projects, the researchers use external sources and prefer informal communication. Based on their findings, Ellis and Haugan (1997) developed a behavioral model which illuminates the stages of the information-seeking behavior of scientists: "(1) surveying; (2) chaining; (3) monitoring; (4) browsing; (5) distinguishing; (6) filtering; (7) extracting; and (8) ending" (Ellis & Haugan, 1997, p. 395).

In the same fashion, Meho and Tibbo (2003) utilized Ellis's (1989) model regarding information-seeking behavior. Ellis's (1987, 1989) model consists of six different stages: starting; chaining; browsing; differentiating; monitoring; and extracting. Meho and Tibbo (2003) employed a triangulation research design for collecting data, with the unit of analysis being the social scientist. According to Meho and Tibbo (2003), the results of the study were consistent with David Ellis's model. They also extended

the model with an additional four stages: “accessing, networking, verifying, and information managing” (Meho &Tibbo, 2003, p. 570).

Engineers

The information-seeking behavior of engineers has been deeply studied by researchers; compared with other professions, it is probably one of the most studied professions. One influential study was conducted by Yitzhaki & Hammershlag (2004) in Israel. They used a survey of 233 Israeli software engineers and computer scientists finding that engineers prefer electronic textbooks and trade or promotional literature. In another study focusing on engineers’ information sources, Fidel and Green (2004) interviewed 32 engineers in the U.S. According to their findings, engineers initially consult familiar sources and prefer electronic sources to paper document sources to save time. Similarly, the study of Hedvah Shuchman (1981) concluded that engineers initially consult their own technological database. According to Hedvah Shuchman (1981), they rarely use the library as a source of information. The informal communication and personal collection were the main information sources for engineers. This was also supported by the findings of Pinelli, Kennedy, and Barclay (1993).

Leckie et al. (1996) developed an early model of the information-seeking patterns of professionals. They reviewed the information-seeking behavior of three occupations: lawyers, engineers, and medical professionals. They conducted meticulous content analysis for collecting data and found that the information-seeking process is shaped by interaction and feedback mechanisms. They concluded that engineers first use their

own collections then they consult their colleagues. In addition, the engineers prefer internal sources rather than external information sources.

In another study about engineers, Hertzum and Pejtersen (2000) concluded that engineers primarily consult their colleagues because it saves them time. Therefore, their colleagues shape their information-seeking behavior. Finally, in the same vein as Hertzum and Pejtersen (2000), Kwasitsu (2003) conducted a study among engineers working in design, process, and manufacturing divisions of an engineering company. Kwasitsu revealed that the engineers initially use their personal collections, following that, engineers consult their colleagues and then use external information sources. On the other hand, Sonnenwald (1996) argued that the context of "engineering design situations" is important player in determining the information-seeking behavior used to obtain it (p. 295).

Medical Providers

Many researchers have conducted studies regarding health care professionals. This group of professionals includes physicians, nurses, dietitians, speech pathologists, social workers, and dentists (Leckie et al., 1996). Blythe and Royle (1993) conducted a study of a professional group of nurses. They revealed that nurses generally seek two main types of information for keeping their knowledge up-to-date: information regarding nursing and information about the care of patients. Nurses base their information-seeking behaviors on routine questions and non-routine questions. Nurses generally look for information in a single source such as another nurse, a physician, and in print (patients' records and laboratory results) in terms of routine questions. For non-routine

questions, the nurses usually consult multiple sources. The nurses seek "clear directions from knowledgeable oral sources or quick reference material because the information-seeking was either routine and task-oriented or was triggered by patient needs that required quick decision making" (p. 4341). Therefore, based on Blythe and Royle's (1993) findings, the nurses mainly consult colleagues and ward-based sources regarding patient care.

In order to understand the information-seeking behavior of medical professionals, Cogdill (2003) conducted another study. He surveyed 134 nurse practitioners and found that the nurse practitioners primarily consult their colleagues, textbooks, drug reference manuals, and protocol manuals. In contrast to Cogdill (2003), McKnight's (2007) study produced different results. McKnight (2007) studied on-duty critical care nurses' information behavior. For this reason, he applied a grounded theory model based on observation and interview. McKnight (2007) revealed that the critical care nurses based their attentions on patient information. The critical care nurses did not have any opportunity to seek their information through printed sources while on duty because of time constraints.

Harrison, Hepworth, and de Chazal (2004) conducted a study of the information needs of social workers who were "part of the multi-disciplinary team within each hospital" (p. 27). Harrison et al. (2004) used a questionnaire, focus groups and semi-structured interviews as data collection methods and interviewed 35 social workers. These researchers found that the social workers have a lack of access to information sources; lack of internet access was one of the main obstacles for gathering information. The social workers prefer face-to-face communication.

Finally, similar to nurses, the information-seeking behavior of dentists also follows a systematic research pattern. Strother, Lancaster & Gardiner (1986) studied information needs of practicing dentists. In order to determine information-seeking behavior of dentists and their information sources, Strother et al. (1986) surveyed 500 dentists in Louisiana based on a random sampling method. The results of their study indicated that the dentists prefer personal journal collections and professional colleagues for staying current regarding their needs for information on new techniques. They also use the *Physician's Desk Reference* as a primary source for new drugs. In addition, they consult colleagues and dental reference books. However, the dentists rarely use libraries for gathering information (Strother et al., 1986).

Attorneys

Lawyers generally carry out four types of tasks: advocating, negotiating, drafting, and counseling (Mayer, 1966). According to Leckie et al. (1996), the work roles play a crucial role in determining the information-seeking behavior of lawyers. Besides their work roles, the type of organization in which lawyers are working also influences their information-seeking behavior. That is, if a lawyer works in a small firm, he or she needs to consult external information sources more than a lawyer in a big firm. For example, Fowler (2007) noted that lawyers in a small firm need to use "basic state resources and updates of appellate court rulings" (p. 5). Thus, a lawyer in a big firm can meet their information needs through the firm's internal collections. Based on the specialization of the lawyers and their work environment, their information need is varied.

Kerins, Madden, and Fulton (2004) tested Leckie et al.'s (1996) model in order to examine the information-seeking behavior of 12 students in law programs in Ireland. The findings of this study confirmed Leckie et al.'s (1996) model. Similarly, Wilkinson's (2001) study supported the findings of Leckie et al. (1996). Wilkinson (2001) interviewed 154 lawyers in Canada and found that the lawyers used informal sources for their information-seeking. He further revealed that some demographic factors such as gender have no effect on the lawyers' information-seeking behavior. In contrast, the lawyers in a big firm prefer internal sources.

In order to examine the information needs and information-seeking behaviors of lawyers in Lagos, Haruna and Mabawonk (2002) used a stratified random sampling method for selecting 361 lawyers. According to the findings of their study, 98.2% of lawyers used library collections, 71.7% of lawyers consult their colleagues, and 58.1% of lawyers barely use the internet or other electronic databases.

Lastly, regarding lawyers' information-seeking behavior, Kuhlthau and Tama (2001) used semi-structured interviews. Semi-structured interviews provide the researcher with flexibility because an answer to one question may influence and prompt him/her to ask further questions more directly linked to the research topic. In addition, the semi-structured interview technique allows the researcher to access detailed information about perceptions of lawyers' information-seeking behavior. Kuhlthau and Tama (2001) concluded that lawyers use print material. They also noted that lawyers have problems when they are searching for specific information regarding complex tasks.

Information-Seeking Behavior of Police

There are few studies regarding the information-seeking behavior of police officers. However, an increase in concern for security issues has recently attracted the attention of scholars; therefore, there are some valuable studies in the literature. Aksakal (2005) conducted one of the studies. He studied the information-seeking behavior of undercover narcotics police officers in Dallas. Aksakal used a triangulation method by implementing interviews, surveys and observations among a total of 128 undercover police supervisors. He tried to examine the information-seeking behavior of undercover narcotics police officers through the Social Virtual Interface (SVI) model. He concluded that it was complex and dangerous for the undercover police officers to obtain information. Aksakal said that the undercover narcotics police officers sought information through the following sources: “departmental investigations, informants, criminal case histories, technical surveillance, other agencies, media, public records, departmental records, and governmental records” (p. 58). The undercover police officers prefer internal information sources due to their higher credibility.

In another study, Lynda M. Baker (2004) applied the general model of the information-seeking of professionals provided by Leckie et al. (1996) to explain the information-seeking behavior of undercover female vice officers. For this study, Baker used a qualitative research methodology and interviewed and observed seven female police officers. The main purpose of her study was to examine the information-seeking behavior of female police officers who were working undercover to control prostitution. Baker concluded that the undercover female police initially needed to know the place of illegal prostitution, and so they consulted their colleagues. The undercover female

officers also used some official documents, such as incident reports, and they referred to internal and external information sources for meeting their information needs (Baker, 2004).

Kostiainen, Valtonen, and Vakkari (2003) studied information-seeking behavior in pre-trial investigations. Like Baker (2004), they also applied Leckie et al.'s (1996) model for examining information-seeking behavior in pre-trial investigations. In doing so, they interviewed nine police officers who were working for the criminal investigation unit in Finland. The investigators seek information for answering the three questions: "1, Crime; what are the essential elements of the offense? 2, Circumstances; when and where did the crime take place and what might have caused it? And 3, Parties involved; who is the injured party and who is the offender?" (p. 158). The researchers found that the characteristics of tasks determined the information needs of the police officers. For example, a murder case requires more information collection than a theft case. The investigators also use multiple information sources, such as coercive measures (seizures and wire-tapping). They consulted legislation that also shaped their information-seeking behavior.

Al Daihani and Rehman (2007) examined the information literacy capabilities of police officers in Kuwait. The purpose of their study was to investigate information skills and computing skills and the perceived value of information sources of law enforcement officers. Their study used both qualitative and quantitative methodologies to collect data on 210 ranking police officers enrolled in a training program. Data on only 111 of the officers could be used. The scholars concluded that there are statistically significant variations among categories of Kuwaiti police officers based on their perceived value of

different information sources, their information skills, and their computing skills. According to the results of the study, “the Kuwaiti police officers had weak computing and information capabilities. They were generally poor in searching skills. It was found that departmental affiliation exhibited significant difference for computing and information skills” (p. 613).

One of the important studies regarding the information-seeking behavior of crime scene investigators was done by Demircioglu (2010). Regarding the area of law enforcement, the study created an important theoretical background for future studies by being first to attempt to employ Leckie et al.’s (1996) model after Lynda M. Baker (2004). Demircioglu (2010) used a quantitative research design. The study revealed that crime scene investigators consulted their own personal knowledge as an information source first. The crime scene investigators with a higher educational level are less likely to look to their colleagues as a primary information source. In addition, the study tried to explore the possible barriers for crime scene investigators to reach various information sources.

Kilic (2010) examined information literacy skills among police officers in Turkey. He collected 570 cases by employing Internet and paper-based surveys. He revealed that socio-demographic characteristics such as education, and experience to some extent, has an important determinative impact on the use of information sources, as well as both information and computer literacy skills of police officers in Turkey. For example, he found that there was a statistically significant relationship between police officers with high rank and their computer literacy skills. In addition, the experienced

police officers were more likely to use the information sources in general than inexperienced police officers.

Table 2.1

Summary of Information-Seeking Behavior of Professionals

	First Source	Second Source	Third Source	Communication Preferences
Scientists	Consult their own knowledge	Consult their colleagues	Consult print materials	Informal communication
Engineers	Consult their colleagues	Consult their own knowledge	Prefer document sources	Informal communication
Lawyers and Legal Research	Consult their own knowledge	Prefer print materials	Consult their colleagues	Informal communication
Medical Providers	Consult primary source (patients' records and laboratory results)	Consult their colleagues	Consult reference material	Informal communication
Police Officers	Use some coercive measures such as seizures and wire tapping, case histories	Consult their colleagues	Use some formal documents and print materials	Informal communication

Lastly, another recent study regarding the profession of digital evidence examiners was conducted by (Yildirim, 2010). In order to understand their information-seeking behavior, he used a qualitative research design for data collection method. Yildirim (2010) interviewed 10 digital evidence examiners by telephone. He found that digital evidence examiners commonly examined digital evidence through some hardware and special devices. Work conditions have an important impact on the information-seeking behavior of digital evidence examiners. Finally, he concluded that they also consulted some specific information sources such as technical journals as sources of information.

General Model of Information-Seeking of Professionals

After providing an overview of literature regarding the information-seeking behavior of scientist, engineers, attorneys, medical providers, and police officers, I present Leckie et al.'s general model of information-seeking of professionals since it takes into consideration almost all characteristics of these professions. Throughout the literature review of these professions, Leckie (2006) revealed five common yet significant characteristics:

> 1. Despite their training in a particular area of expertise, a professional often assumes a number of complex and different work roles (such as service provider, administrator, researcher, counselor etc.) as part of her/his work position.
>
> 2. These roles have a constellation of tasks associated with them.
>
> 3. The tasks required in each role are likely to prompt information needs and/or seeking.
>
> 4. There are intervening factors that may either facilitate or inhibit the findings and use of information for specific tasks.
>
> 5. It often takes more than one attempt to find the appropriate information (thus suggesting a feedback mechanism is at work). (p. 160)

Because of these key findings, the researcher also found a consistency with the literature review of these professional groups and Leckie et al.'s (1996) general model of the information seeking of professionals. Consequently, the model seems very comprehensive (see Figure 2.1). Leckie et al.'s (1996) concern is how the tasks and work roles shape the information-seeking behavior of professionals. They developed a model of information seeking of professionals which has six components as follows: work roles, associated tasks, characteristics of information needs and three factors affecting information seeking, awareness of information, sources, and outcomes.

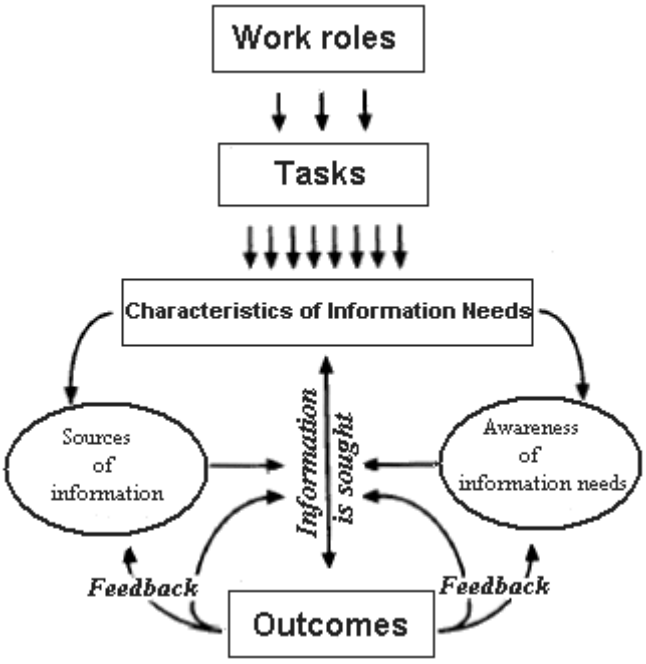

Figure 2.1. The information seeking of professionals model (Leckie et al., 1996).

First Two Components: Work Roles and Associated Tasks

The work role and its associated tasks are the first two components driving the information-seeking behaviors of a professional. For Leckie et al. (1996), the following five work roles, or professions, are the most prevalent in this literature review: service provider, administrator/manager, researcher, educator, and student. A common theme suggests that each career type requires employing multiple tasks, or minor roles, while carrying out daily work activities. Understanding roles and tasks are keys to understanding information-seeking behavior; the more roles and tasks that an individual assumes the more complex the information-seeking behaviors.

In the role of a service provider, the professional performs several tasks. According to Leckie et al. (1996), the description of a service provider is a more common role for all professionals since the service provider emphasizes “the creation

and delivery of a vast range of services (including both expertise and physical products) to the client" (p. 181). Example roles include engineers, lawyers, and medical providers, each carrying out multiple tasks. The administrator and manager roles make use of a different set of information needs based on related tasks. Thirdly, the researcher role is often put to use within most any organization or academic institution. The educator is another important role. The educator refers to two sub-roles, one who provides public awareness through community outreach programs and more commonly a college professor or school teacher. The last role is the student.

Many scholars argue that one important task common to all professionals is keeping up with new developments. That is, with each major technological advance every aspect of social life within society alters and becomes more sophisticated (Lenski, 1966). All aspects of modern life (such as culture, sciences, groups, individuals, military, and government) are influenced by technology. From this perspective, every person, profession, and organization feels a need to upgrade the latest technologies and acquire the skills to make use of them.

Third Component: Characteristics of Information Needs

Characteristics of information needs are another component of the model. The definition of "need" is the cornerstone for understanding information need. Case (2007) describes "needs" as a source of an "inner motivational state" that causes action and thought. Some scholars argue that the term "need" may refer to "wanting, believing, doubting, fearing, or expecting" (Case, 2007, p. 69). Wilson (1997) describes "need" as a subjective experience that emerges in the mind of an individual, one that is not easily

observable. Andrew Green mentions four main elements of “need”: instrumental, contestable, necessity, and state of mind (Case, 2007).

Charles Atkin (1973) identifies information need as “a function of extrinsic uncertainty produced by a perceived discrepancy between the individual’s current level of certainty about important environmental objects and a criterion state that he seeks to achieve” (p. 206). In other words, it is a product of an individual’s state of mind and differs from one person to another based on each individual’s mental universe. Harter (1992) argues that information need is dynamic rather than static. Case’s (2007) definition is “a hypothesized state brought about when an individual realizes that they are not comfortable with their current state of knowledge” (p. 333). That is, need emerges when a user decides a lack of knowledge exists. The lack of knowledge brings uncertainty about things that an individual desires to understand better.

According to Leckie et al. (1996), information needs are generated when one or more specific tasks within a work role are perceived to fail to meet current needs and thus the individual seeks a solution. This “information need” may be only temporary and can be influenced by factors such as individual demographics (age, profession, specialization, career stage, and geographic location), context (situation specific need, internally or externally prompted), frequency (recurring need or new), predictability (anticipated need or unexpected), importance (degrees of urgency), complexity (easily resolved or difficult), the records management system, and complex fashions. Available resources may also be a factor though it may also be handled within individual demographics and/or the records management system.

Fourth Component: Sources of information

The fourth component is sources of information. Professionals have a large variety of information sources, including journals and colleagues, from which to draw. Leckie et al. (1996) enumerated types of information sources as follows:

- A formal source may be a conference or a journal
- An informal source may be conversing or discussing with friends and colleagues
- An internal source may refer to seeking information within the organization or institution
- An external source refers to seeking information through outside source
- An oral/written source might be a letter, memo, voicemail, or electronic text
- A personal source may refer to the individual's own knowledge and experience

Information sources vary by profession. For instance, while engineers primarily consult their colleagues first (Hertzum & Pejtersen, 2000), chemists and biochemists refer first to electronic journals (Flaxbart, 2001). Similar to engineers, nurses also mainly consult colleagues (Blythe & Royle, 1993).

Fifth Component: Awareness of Information

The fifth component is awareness of information. Leckie et al. (1996) mentioned seven variables regarding awareness of information: familiarity and prior success, trustworthiness, packaging, cost, timeliness, quality, and accessibility. Knowledge of information sources is essential in the process of information-seeking. Individual awareness guides information-seeking. If an individual is familiar with a source, she/he will likely use that source before other sources. Trustworthiness refers to "accurate

information—a reflection of the source's perceived capability" (Leckie et al., 1996, p. 185). Packaging refers to a professional's information needs to be in a specific format in regard to their perceptions. For example, academicians favor the journal format. Likewise, the monetary cost of obtaining the information influences the professional in terms of using it or not using it. For example, if a college library provides all students and professors access to various journals then they are more likely to use those journals compared to ones that they have to pay for themselves.

Leckie et al. (1996) argued that information needs should be met at the right time, no later and no earlier. Clearly, if the information cannot arrive in time for it to be put to use, then the need to access it will be reduced. In the same respect, if holding on to the information while waiting for it to become of use becomes costly or cumbersome, then it is not timely for it to arrive early. Therefore, the time factor is important for information-seeking. The need, the time, and the task it is needed for all have a determining effect on seeking information from any source. Additionally, both the time cost and monetary cost to acquire it can be both a psychological and a physical influence.

The last two factors, quality and accessibility, are also important factors for awareness of information. That is, information should satisfy the needs of the user. The relevance of information, to some extent, determines its perceived quality. Finally, the accessibility of information receives the attention of the professional to make use an information source. As mentioned above, several professions first use their own knowledge, internal collections, and consult their colleagues according to their accessibility.

Sixth Component: Outcomes

Outcomes is the last component of the model. The search is complete when there is a new understanding of the topic and/or when an outcome is ready for the individual to put to use. Leckie et al. (1996) state that “an outcome may be the end point of the work-related requirements of specific roles and tasks" (p. 187). If the results are successful, the user feels relieved. If results do not satisfy the user’s needs, the searching process will go on. Leckie et al. (1996) identify this situation as the “feedback” loop. The individual seeks information through different awareness factors. They also argue that the outcome for information-seeking has more than one dimension. That is, the outcome related to one task may produce benefits for another task.

The model in Figure 2.1, to some extent, covers the complexity of information-seeking behaviors used by professionals. The role-task relationship and general factors, such as their career stage, determine the needs of professional. Leckie et al. (1996) claimed that this model is “applicable to all professionals,” and that all components of the model are representative of any professionals’ information seeking characteristics (p. 161). Leckie and her colleagues emphasized valuable key points that emerged from the literature. These points include a number of complex and varied work roles, task associations of these roles, and intervening factors for specific tasks.

Conclusion

Researchers have studied information-seeking behavior in various professions for many years. However, the conceptualization related to a single profession’s

information-seeking behaviors cannot be generalized to include all other professions due to the varied work roles and tasks between professions. The model presented by Leckie et al. (1996) was meant to explain the general information-seeking behaviors of professionals. Even though the model is considered insufficient to explain all specific tasks in all contexts, it has strong potential to be a forerunner in future studies on this topic.

Based on the findings from these research studies, future studies may provide a better understanding of task complexity within all professionals' information-seeking behavior. In addition, studies of information behavior have generally included both qualitative and quantitative research designs with neither one appearing more or less useful than the other in furthering our knowledge of this subject.

The greater portion of studies on information-seeking behavior is related to occupations in the general public (Julien & Duggan, 2000). However, as noticed in the literature review, the studies related to policing are very limited in terms of information-seeking behavior. Policing as a profession includes many sub-branches, such as the traffic unit, forensic unit, community policing unit, anti- drug and smuggling unit, passport and immigration unit.

All professionals in policing have different structures, roles, tasks and information needs, and sources, all of which are essential to maintaining the social order both within the department and within the community they serve. Abraham Maslow's hierarchy of needs highlights the importance of security (Maslow,1970). According to him, there are five levels of needs that motivate humans: physiological, safety and security, social and affiliative, esteem and recognition, and self-actualization. According to this order, safety

and security is the second most important need to be fulfilled. In this sense, the information-seeking behavior of police officers deserves special attention from researchers. Taken altogether, the literature review indicates that no study on the information-seeking behavior of police officers working in police stations has been conducted up to now. This study, to some extent, fills the gap in the literature of Information-seeking behavior.

CHAPTER 3

METHODOLOGY

Introduction

This study is both exploratory and descriptive research for a broad understanding of the information-seeking behavior of police officers who are working in police stations. I conducted a case study that provides a methodological structure for determining information-seeking behavior and information needs of police officers in police stations. In this study, I use a quantitative method.

Ethical Consideration

Research requiring the participation of human subjects is subject to stringent guidelines (Babbie, 2007). Researchers are bound by ethical duty and moral responsibility (May, 2001).

This study gathered the data necessary to study the information-seeking behavior of police officers. The guidelines established by the Institutional Review Board (IRB) were strictly followed. First, approval of the IRB was requested and obtained.

Next, any possible harm to the participant was considered. According to Henn et al. (2006), “social research can harm an individual in many different ways — physically, psychologically, legally, and professionally” (p. 81). For example, police officers may be embarrassed when asked to personal information, such as their income. Babbie (2007) noted that revealing personal information such as income or welfare payments could cause individuals to feel uncomfortable.

Research that involves human participants must also protect the anonymity of the respondents. To meet this requirement, this study does not collect identifying data.

Lastly, this study made every concerted effort to maintain the confidentiality of the respondents. Babbie (2007) stated, “a research project guarantees confidentiality when the researcher can identify a given person’s responses but promises not to do so publicly” (p. 65). This data for this study was kept in the primary investigator’s possession.

Unit of Analysis

The units of analysis used for this research are police officers who are working in police stations in Turkey. The number police officers in police stations and the number of police stations are based on the population size of the Turkish city where they are located. Larger cities tend to have more stations and more officers. Turkey totally has 81 cities. Their establishment is related to law. The populations of cities vary from 100,000 to several million.

Research Questions

R1. To what extent is there a relationship between the information sources used by police officers in the context of conducting police station tasks and their socio-demographic characteristics?

R2. To what extent is there a relationship between the information sources used by police officers in the context of keeping up-to-date and their socio-demographic characteristics?

R3. Do different roles lead to use of different information sources by police officers working in police station?

Measurement and Variables

To justify and describe the variables used to measure the concepts of this study; I explain further how they can be utilized to give us a bigger picture of the information-seeking behavior of police officers in police stations. This study employs two dependent variables (the use of information sources for tasks and the use of information sources for keeping up-to-date), and six independent variables (the roles of police officers, education, service years in policing, service years in police stations, gender, and age).

Dependent Variables

The Use of Information Sources for Tasks

The use of information sources is determined by tasks and career stage and the information sources available (Kilic, 2010; Leckie et al., 1996). Leckie et al. (1996) state that “the information needs of engineers, and the sources of information used, vary according to career stage, from student and junior engineer to intermediate and more senior stages” (p. 167). In the same fashion, Stinson and Mueller’s (1980) study also indicates that several factors such as age, task, specialty and place play roles in determining the use of information sources.

Al Daihani and Rehman (2007) indicated that the purpose of their study was to examine information and computing skills and the perceived value of information sources of law enforcement officers. They highlighted the value of this study as being

one of the first of its type and added that it could contribute to determining the appropriate educational policies for Kuwaiti police officers in terms of their information and computing skills. Al Daihani & Rehman enumerate the sources of information for Kuwaiti police officers. Most of the information sources mentioned in their study also are consistent with the context of conducting police station tasks. In this study, the dependent variable relating a task to use of an information source was measured through 31 items. Respondents answered the following question regarding the use of information sources for tasks: while performing police station tasks, “among the following possible information sources please indicate the appropriate sources that you use, apply, and consult with” (Demircioglu, 2010, p. 107). In order to measure the frequency of usage of each information source related to a given task, a 5- point Likert scale was utilized: 1 = *never*; 2 = *rarely*; 3 = *sometimes*; 4 = *often*; and 5 = *always*.

The Use of Information Sources for Keeping Current

Professionals have a strong need to keep up to date on latest advancements. Leckie et al. (1996) showed how this works when they studied how nurses review systematic research. Strother, Lancaster, and Gardiner (1986) studied the information-seeking behavior of dentists. They talked about the difficulties dentists have in keeping up with the latest advancements owing to a huge increase in new information. Likewise, Leckie et al. (1996) state that “an ongoing aspect of a professionals’ work is keeping up with the advancements in one’s field and upgrading one’s education and skills by taking courses” (p. 182).

The use of information sources in the context of keeping up-to-date is measured through 23 items. The question, “How often do you use the following resources as a source of information to stay current in your field?” (Demircioglu, 2010, p. 105) was utilized to measure each item through a 5-point Likert scale: 1 = *never*; 2 = *rarely*; 3 = *sometimes*; 4 = *often*; and 5 = *always*.

Independent Variables

In this study, in order to understand information seeking-behaviors of police officers working in police stations, the roles of police officers, education, service years in policing, service years in police stations, gender, and age are utilized. The educational level of police officers in police stations is measured by the question: “What is the highest level of your education completed?” The response choices include five categories: high school, college, university, master degree and doctoral degree.

The dependent variable, service years in policing is operationalized through the question: “How many years have you been serving in the TNP?” In terms of task and work roles, years of service in policing is a good predictor of experiences. According to Leckie et al. (1996), work roles are affected by individual experience. Likewise, Shuchman (1981) argues that professionals first consult their own knowledge and experiences regarding tasks and problems.

In this study, service years in police stations is another independent variable. The variable service years in police stations is measured by the length of service in the police station in years. It is operationalized with the following question: “How many years have you been serving in police stations?” Similar to service years in policing,

this also is a good predictor of experience. For example, one police officer might have worked in several different units over a long career, such as five years in a traffic unit, seven years in a community policing unit, and so on. Therefore, this variable indicates the experience within police stations in general.

Age and gender are the last independent variables in this study. Age is operationalized with the question of "How old are you, measured in years?" Gender is measured through the following question: "What is your gender?" with two categories, male and female. According to Leckie et al. (1996), age and gender are two important demographic variables which affect the information needs of professionals.

The role of police officers is another important independent variable for this study. As professionals, police officers in the police station play several roles, including dispatch officer, administrative officer, justice police officer, patrol officer, officer on duty, and other.

Based on the role, a police officer's information sources seem to vary. Leckie et al. (1996) argued that based on the context of the professional's position and situation, or role, within the organization, the professional's information needs and sources will vary. Besides tasks, work roles also determine the professional's usage of information sources. Finally, a huge amount of literature indicates that work roles affect the information-seeking behavior of professionals in terms of information sources and needs (King & Griffiths, 1991; Leckie et al., 1996; Shuchman, 1981; Van Houten, 1982)

In this study, the role of the police officer variable contains the categories of dispatch officer, administrative officer, justice police officer, patrol officer, officer on duty,

and other. The question, “What is your current position as a police officer in the police station,” measures this variable.

Data Collection

Population

In this study, a quantitative approach was used for data collection. In order to explore the information needs and information-seeking behaviors of police officers in police stations, I employed a cross sectional research design. Considering the shortage of studies regarding information-seeking behaviors of police officers in Turkey, this study is both descriptive and exploratory.

This is designed as a cross-sectional study since the data is collected at one point in time. (Babbie, 2007). Likewise, Sullivan (2001) identifies a cross-sectional study of events at “a single snapshot in time”. The selection reasons for this survey method are: it is both descriptive and exploratory (Babbie, 2007), and it provides statistics so that the researcher may analyze the targeted population in an empirical way while also providing an advantage in terms of time and cost.

The research population consists of police officers working in police stations of the Turkish National Police. Like military organizations, the structure of the Turkish police is very centralized. The General Director of Security governs the Turkish police forces under the auspices of the Ministry of the Interior. Turkey is subdivided into 81 cities for administrative purposes. The city populations vary from approximately 100,000 to several millions. Each city has a police department which is governed by a First-Degree Major of Police. In addition, each city also includes subdivisions in nearby

towns. Police stations in towns form the lowest level in the structure (Ozcan & Gultekin, 2000). Therefore, police stations exist in every area for which the Turkish National Police is responsible.

Turkish National Police has over 180,000 ranked and non-ranked police officers nationwide (Ozmen, 2008). According to Ozmen (2008), the total number of non-ranking police officers is 167,000 in the TNP. Thus, the sample of this study will be from non-ranking police officers to provide homogeneity of sampling.

Sampling Method

In the quantitative research design, probability sampling designs are commonly employed since researchers utilize them pertaining to the statistics in their analysis and to generalize their findings to a larger population. Thus, probability sampling is more appropriate to use in survey research. According to the assumption of probability sampling, each subject in the targeted population has an equal probability of being selected and included in the sample (Babbie, 1984). It is important to determine whether a particular sample is representative of the study population. Probability sampling designs consists of four types of sampling methods: simple random sampling, systematic sampling, stratified sampling, and multi-stage cluster sampling (Babbie, 2007). I derived the sample size from a sampling frame. Simple random sampling was employed since obtaining a list of all police stations throughout Turkey is difficult. I listed the names of the cities in Turkey and then randomly select 8 cities out of 81 cities.

The sample size was necessary to produce a reliable *t*-score. The total number of police officers working in police stations at the district level is not officially available.

However, taking into account the total number of non-ranking police officers, the number of non-ranking police officers working in police stations is equal to approximately 100,000. Scholars estimate this to be about 60% of the total number of non-ranking police officers working for the TNP. Based on the rule of 95% confidence level, the sample size needs to be around 383.

Data Collection Method

In order to obtain a high response rate, paper-based surveys were utilized. A low response rate may be a problem because the study may not be representative, and any research should be representative of its targeted population. According to Erdos (1983), a low response rate threatens the validity of the entire research project. Non-representative data misleads the researcher. Low response rate also might also affect our overall estimates of the study population. Babbie (2007) pointed out that "a low response rate is a danger signal, because the non-respondents are likely to differ from the respondents in ways other than just their willingness to participate in your survey" (p. 262). A low response rate may lead to response bias. In addition, Mangione (1995) also found that the responding sample is biased by the lower rate of response. According to Alreck and Settle (1985), the respondents' characteristics generally play an important role in responding on this issue and ends in biased results if the response rate is low. This systematically affects the data and reduces validity. One problem with low response rates for a mailed questionnaire is accuracy. Thus, there is a general belief among researchers that a lower response rate points to lower accuracy.

Questionnaire and Pilot Testing

The final version of the questionnaire was constructed according to the result of a pilot test conducted by the researcher. Straub and Carlson (1989) state that "pilot tests can permit testing of reliability and construct validity, identify and help correct scaling problems, and serve as dry runs for final administration of the instrument" (p. 162). By conducting a pilot test, a researcher can evaluate the validity of the variables in the study. Therefore, in this study, a pilot test is conducted with police officers working in police stations. In addition, an important portion of the questionnaire is obtained from the related studies such as Edgar (1988), Balulwami (1997), Demircioglu (2010), Preez (2008), and Kilic (2010).

I used a pre-testing questionnaire in telephone surveys and face-to-face interviews with police officers who are currently working in police stations. Then I sent a revised questionnaire to the same individuals. The final version of questionnaire was shaped by interaction and feedback mechanisms. During the pilot test, ethical considerations were addressed. All subjects were kept anonymous. Assuring confidentiality increases the response rate.

The goal of this process is to increase the validity of the instrument. The questionnaire was approximately 3-4 pages long and included a brief explanation about how respondents should fill it out. The questions listed covered simple to complex issues; sensitive questions were saved for near the end of the survey.

Validity and Reliability

Validity and reliability are crucial for any selected research method. According to

Sullivan (2001), “validity refers to the accuracy of a measure: Does it accurately measure the variable that it is intended to measure?” (p. 131). In this study, validity is based on the question of whether a measure sufficiently reflects the true meaning of the concept. Case (2007) explains, “validity is the extent that the measurement procedures accurately reflect the concept” related to our study (p. 181). There are four methods of assessing validity: face validity, content validity, criterion validity, and construct validity. It is noted that the construct validity of the study is strong since the questioner is highly familiar with the research questions. In addition, the study has face validity.

On the other hand, reliability is indicated “when measures are repeated under the same conditions and yield highly similar measurements each time” (Case, 2007, p. 181). Internal consistency reliability is tested through four types of methods; test-retest reliability, inter-observer reliability, half-split reliability, and Cronbach’s alpha reliability. Here the researcher looks at the internal consistency of all indictors that measure the same concept. In other words, internal consistence reliability refers to “whether or not a test or a scale assesses a single construct” (Wasik, 1999, p. 527). From this point, if the researcher wants to calculate internal consistency reliability, the questionnaire is supposed to have more than one item. It is expected that all items on the index are conceptually related to each other. That is, there should be a correlation among all items. According to Strickland (1999), the “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). The level of homogeneity indicates the level of internal consistency reliability. More homogeneity means a stronger indicator of a single concept.

On the other hand, if there is no homogeneity among items in a questionnaire, this means there is no internal consistency reliability. At this point, low internal consistency reliability becomes a problem because there is no consistency among items. This is one threat of reliability that the researcher may encounter.

It is generally accepted that a test has sufficient reliability when the alpha coefficient value is over .70 points. If the value is below .70, it indicates low internal consistency. Therefore, I calculated the alpha coefficient to find the degree of the correlation among items in the questionnaire for reliability. In this study, the alpha values indicate that there was high internal consistency reliability for Information Sources for Conducting Task (ISCT) and Information Sources for Keeping up to date (ISKD) (Cronbach's alpha= 0.909 and 0.888 respectively). The possible threat may be that the concept of information-seeking behavior may not be well defined in information science. Therefore, the pilot test was conducted to increase the validity of the study.

Data Analysis

In this study, two dependent variables (the use of information sources for tasks and the use of information sources for keeping up-to-date) and six independent variables (education, service years in policing, service years in police stations, gender, the roles of police officers, and age) were used for investigating the information-seeking behavior of police officers working in police stations. In doing so, first the data regarding all variables was analyzed with descriptive statistics. The descriptive statistics initially provided an accurate picture of all aspects of the data set.

Second, a bivariate correlation matrix was used for examining the linear relationships between the dependent and independent variables prior to multivariate analyses. The bivariate correlation matrix helps to find variables that might be multicollinear and thus mislead results in multivariate analyses. In addition, *t*-test and ANOVA techniques were conducted to examine variations and relationships between the dependent and independent variables.

Finally, multivariate statistical analyses were performed in order to test the hypotheses through multiple regressions because all the variables in this study were treated as continuous variables. The multiple regressions consisted of three models. In the first model, the general use of information sources for tasks were regressed onto the socio-demographic variables (education, service years in policing, the roles of police officers, service years in police stations, gender, and age). In the second model, the general use of information sources for keeping up-to-date were regressed on the socio-demographic variables (education, the roles of police officers, service years in policing, service years in police stations, gender, and age). For all steps, 17.0 version of Statistical Package for the Social Sciences (SPSS) software was used.

CHAPTER 4

ANALYSIS AND FINDINGS

Introduction

This chapter presents the effect of socio-demographic characteristics on the use of information sources based on the context of keeping up-to-date and conducting police station tasks. In addition, this study examines the impacts of roles on the use of information sources. The use of descriptive statistics and then bivariate and multivariate analysis are displayed in this section. First, the descriptive statistics of the study are presented. Second, the findings of bivariate analysis of the variables are presented. Lastly, results obtained from multivariate analyses are presented.

Descriptive Statistics

The data were gathered from 8 cities of Turkey by conducting a paper-based survey data collection method. The total number of surveys sent out was 791. There were 149 samples not taken into account owing to being incomplete or not usable. The response rate was 81%. Thus, the sample size was 642, which met the necessary confidence level of the study. The following tables present descriptive statistics of the data consisting of the three dependent variables (the use of information sources for tasks and the use of information sources for keeping up-to-date), and the six independent variables (education, service years in policing, the roles of police officers, service years in police stations, gender, and age).

The variable use of information sources for tasks was measured through a scale of 31 items. The average use of information sources for tasks was 3.12 with a minimum

number of 1.43 and a maximum number of 4.67. The results indicate that the use of information sources for conducting task among police officers in police stations is moderate. In other words, police officers moderately consult the mentioned information sources while conducting their tasks. As presented in Table 4.1 relating to use of information resources in the context of conducting police tasks, police officers initially consulted their personal knowledge and experience as information sources before any others with a 3.97 average score. The second most used information source by police officers was legal documents with a 3.95 average score. This was followed by the colleagues in my shift (3.86), station commander (3.71), departmental manuals and guides (3.68), and my shift commander (3.67). Table 4.1 also indicated that colleagues and written sources met a great portion of police officers' information needs.

Table 4.1

Descriptive Statistics for Use of Information Sources Related to Tasks (N =642)

	Mean	S. Deviation	Min	Max	Skewness	Kurtosis
My personal knowledge and experience	3.97	.937	1	5	-.838	.539
Legal documents (codes)	3.95	1.015	1	5	-.648	-.474
The colleagues in my shift	3.86	1.037	1	5	-.645	-.361
Station Commander	3.71	1.196	1	5	-.611	-.622
Departmental manuals and guides	3.68	1.040	1	5	-.471	-.497
My Shift Commander	3.67	1.097	1	5	-.553	-.507
Police Network (POLNET)	3.61	1.122	1	5	-.528	-.442
First responders such as patrol officers	3.60	1.120	1	5	-.613	-.318
Official circulars and memos	3.56	1.063	1	5	-.386	-.589
Internet Websites	3.54	1.222	1	5	-.469	-.772
The colleagues in other shift	3.40	1.082	1	5	-.243	-.563
Personal files and folders	3.35	1.129	1	5	-.185	-.747
In-service training documents	3.17	1.156	1	5	-.186	-.747

(table continues)

Table 4.1 *(continued)*

	Mean	S. Deviation	Min	Max	Skewness	Kurtosis
Responsible investigation unit's officers such as homicide detectives	3.09	1.166	1	5	-.141	-.784
Departmental archives	3.09	1.187	1	5	-.046	-.885
Another Shifts' commander	3.06	1.123	1	5	.013	-.736
Witness(s)	3.04	1.284	1	5	-.130	-1.035
Suspect(s)	2.96	1.286	1	5	-.099	-1.078
Governmental documents (e.g. official gazette)	2.95	1.167	1	5	.171	-.770
Mass Media (newspapers, TV)	2.93	1.187	1	5	-.007	-.870
Victim(s)	2.89	1.309	1	5	.017	-.1.128
Relative(s)/Friend(s) of Victims	2.77	1.202	1	5	.067	-.931
Books	2.70	1.031	1	5	.292	-.304
Databases (i.e. crime, personnel, etc.)	2.64	1.179	1	5	.281	-.777
Emergency Medical Service Personnel	2.49	1.175	1	5	.490	-.573
Attendance at Conferences	2.31	1.049	1	5	.555	-.252
Libraries	2.28	1.105	1	5	.593	-.354
Printed Journals	2.22	1.002	1	5	.677	.161
Informants	2.01	1.110	1	5	.866	-.174

On the other hand, police officers consulted informants as least used information source with a mean of 2.01. The second least used source was printed journals with a 2.22 average score, and was followed by libraries (2.28), attendance at conferences (2.31), and emergency medical service personnel (2.49). Finally, the values of skewness and kurtosis presented in Table 4.1 indicated that the distribution of these variables were normal.

The use of information sources for staying current was measured with a scale of 23 items. The mean score of the use of information sources for keeping current was 3.19 with a 0.61 standard deviation value. It ranged from a minimum 1.59 to a maximum 4.73 score. Table 4.2, relating to use of information sources in the context of keeping up to date, indicated that police officers consulted legal documents more often than any

other information source with a 3.91 average score related to keep up to date. The next most used information source was the colleagues in their shift with a mean score of 3.72. Station commander (3.67), shift commander (3.66), and departmental manuals and guides (3.64) were also important information sources for police officers. In addition, in order to stay current, police officers in police stations more often used the Police Network (POLNET) (3.62) and Internet websites (3.52) as compared to other sources. However, police officers consulted libraries as the least used information source for keeping up to date with a 2.25 average score. Table 4.2 also presented that printed journals (2.43), attendance at conferences (2.53), citizens (2.67), and books (2.78) were among rarely used information sources.

Table 4.2

Descriptive Statistics for Use of Information Sources Related to Keep Current (N =642)

	Mean	S. Deviation	Min	Max	Skewness	Kurtosis
Legal documents (codes)	3.91	1.015	1	5	-.708	-.174
The colleagues in my shift	3.72	1.049	1	5	-.486	-.449
Station Commander	3.67	1.215	1	5	-.582	-.688
My Shift Commander	3.66	1.069	1	5	-.491	-.485
Departmental manuals and guides	3.64	1.022	1	5	-.457	-.418
Police Network (POLNET)	3.62	1.106	1	5	-.460	-.550
Official circulars and memos	3.56	1.048	1	5	-.386	-.511
Internet Websites	3.52	1.219	1	5	-.421	-.838
Personal files and folders	3.43	1.129	1	5	-.306	-.681
The colleagues in other shift	3.29	1.050	1	5	-.060	-.644
In-service training documents	3.24	1.079	1	5	-.208	-.560
Departmental archives	3.19	1.203	1	5	-.135	-.877
Governmental documents (e.g. official gazette)	3.12	1.202	1	5	-.111	-.932
Another Shifts' commander	3.09	1.095	1	5	.042	-.685
Prosecutor	3.07	1.388	1	5	.009	-1.297
Mass Media (newspapers, TV)	3.03	1.162	1	5	-.121	-.868
Books	2.78	1.101	1	5	.123	-.736
Databases (i.e. crime, personnel etc.)	2.77	1.159	1	5	.199	-.789
Citizens	2.67	1.221	1	5	.170	-1.009
Attendance at conferences	2.53	1.033	1	5	.330	-.430
Printed journals	2.43	1.013	1	5	.332	-.517
Libraries	2.25	1.072	1	5	.593	-.304

For using information source in the context of conducting police tasks, the 31 items were added together and averaged to create a new variable called ISCT for use in the bivariate and multivariate analysis. In the same vein, for using information sources in the context of keeping up to date 23 items were added together and then averaged to create the new variable ISKD.

Table 4-3 presented the overall average score of Information Sources for Conducting Task (ISCT) and Information Sources for Keeping up to date (ISKD). According to the table, the mean score of ISCT was 3.12 with a 0.60 of standard deviation. It ranged from 1.43 to 4.67. The average score of ISKD was 3.19 with a 0.61 of standard deviation. ISKD ranged from a minimum1.59 to a maximum 4.73 scores. The small values of standard deviations for both scores implied the normal distribution of the samples.

Table 4.3

Average Scores of ISCT and ISKD

	Average Score of ISCT	Average Score of ISKD
Mean	3.12	3.19
Median	3.13	3.23
Mode	2.97	3.64
Std. Deviation	.60	.61
Range	3.23	3.14
Minimum	1.43	1.59
Maximum	4.67	4.73

The last dependent variable for this study is the roles of police officers covering the categories of dispatch officer, administrative officer, justice police officer, patrol officer, officer on duty, and other. As Table 4.4 presented, police officers responded with

a majority working as patrol officers (37.9 %). This was followed by justice police officer (22.1 %), administrative officer (18.2 %), and other (11.7 %).

Table 4.4

Distribution of Position in Police Stations

	Frequency	Percent	Cumulative Percent
Dispatch Officer	16	2.5	2.5
Administrative Officer	117	18.2	20.7
Justice Police Officer	142	22.1	42.8
Patrol Officer	243	37.9	80.7
Officer on duty	49	7.6	88.3
Other	75	11.7	100.0
Total	642	100.0	

Age is one of the important demographic variables influencing the information needs of professionals (Leckie et al., 1996). The average age was 33.96 years with a standard deviation of 6.81 years. It ranged from a minimum age of 20 years to a maximum of 55 years. As seen in Table 4.5 and Figure 4.1, the largest category by age group of police officers in police stations was the age group 36-40 (27.7%). The second largest age group among police officers was between 26 and 30 (26.6%). It was followed by age groups 31-35 (21.8%), 25 and younger (10.1%), and 46 and older (7.2 %), and 41-45 (6.5) (see Figure 4.1).

Table 4.5

Age Distribution

Age Groups	Frequency	Percent	Cumulative Percent
25 and lower	65	10.1	10.1
26-30	171	26.6	36.8
31-35	140	21.8	58.6

(continued)

Table 4.5 *(continued).*

Age Groups	Frequency	Percent	Cumulative Percent
36-40	178	27.7	86.3
41-45	42	6.5	92.8
46 and higher	46	7.2	100.0
Total	642	100.0	

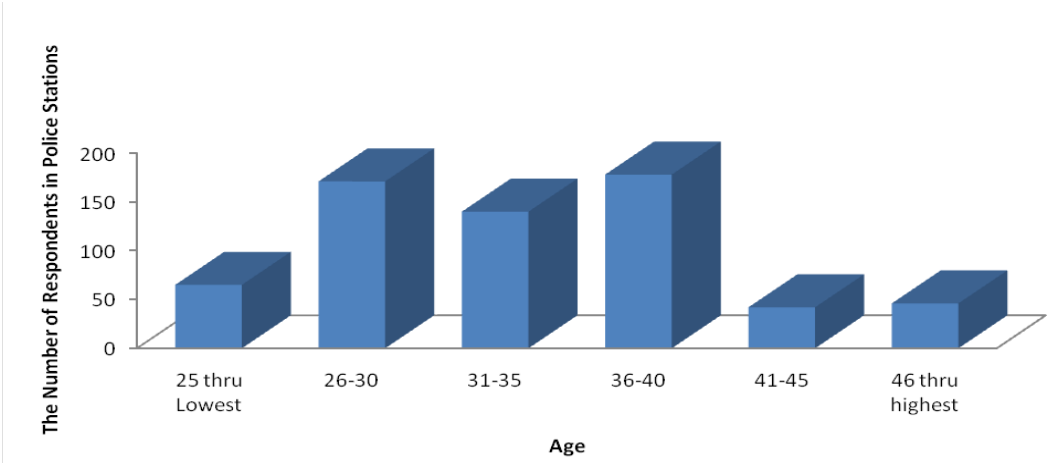

Figure 4.1. Age distribution.

Gender is another important demographic variable (Leckie et al., 1996). Table 4.6 indicated that 83 police officers in the sample were female (12.9%), and 559 were male (87.1%). The distribution of gender in this study is consistent with the whole population of TNP (Ozmen, 2008).

Table 4.6

Gender Distribution

	Frequency	Percent	Cumulative Percent
Female	83	12.9	12.9
Male	559	87.1	100
Total	642	100	

Educational had five categories: high school, college, university, master degree, and doctoral degree. In this study, no respondent had doctoral degree. Table 4.7 shows

that half of police officers in police stations had a two-year college degree in this study (50 %). In addition, about a third of the sample completed a four year degree at a university (34.6%). Percentage of police officers with high school diploma was 12.9% (see Figure 4.2.).

Table 4.7

Education Distribution

	Frequency	Percent	Cumulative Percent
High school	83	12.9	12.9
2 year college	321	50.0	62.9
University	222	34.6	97.5
Masters	16	2.5	100.0
Total	642	100.0	

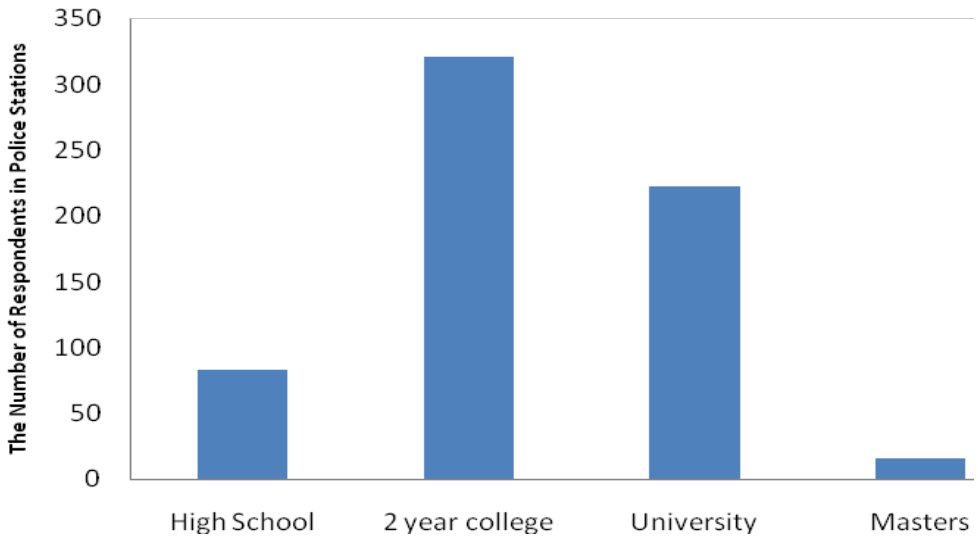

Figure 4.2. Age level.

The service years in policing in general variable was categorized in six groups based on five year interval. The results of Table 4.8 shows that over 78% of police officers have less than 15 years' experience. In Turkey, 5 years' experience qualifies

an officer as an expert. Thus, almost 75% of police officers might be considered experts (see Figure 4.3.).

Table 4.8

Distribution of Service Years in Policing

	Frequency	Percent	Cumulative Percent
1-5	177	27.6	27.6
6-10	183	28.5	56.1
11-15	152	23.7	79.8
16-20	79	12.3	92.1
21-25	34	5.3	97.4
25 and higher	17	2.6	100.0
Total	642	100.0	

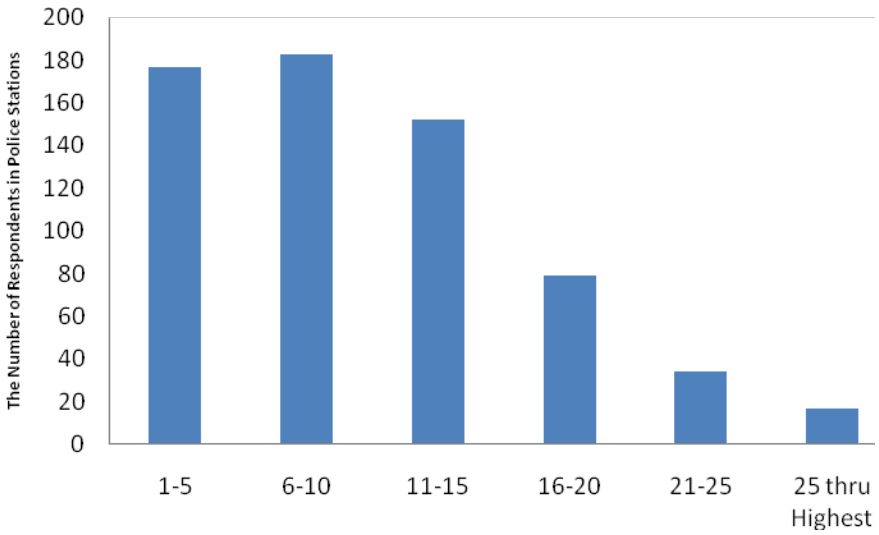

Figure 4.3. Distribution of service years in policing

Service years in a police station were broken down by four year intervals. Over 63% of police officers had a 1-4 years experience in police stations. It was followed by the group of 5-8 years (21.3%). Approximately 40% of police officers had at least 5 and more years experience in a police station (see Table 4.9 and Figure 4.4.).

Table 4.9

Distribution of Service Years in Police Stations

	Frequency	Percent	Cumulative Percent
1-4	405	63.1	63.1
5-8	137	21.3	84.4
9-12	54	8.4	92.8
13-16	29	4.5	97.4
17-20	11	1.7	99.1
21and higher	6	.9	100.0
Total	642	100.0	

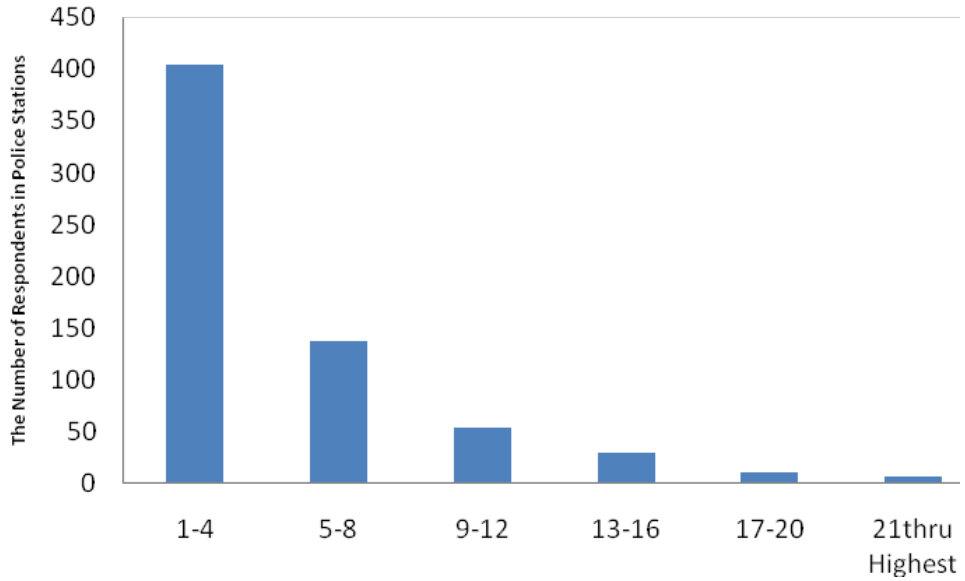

Figure 4.4. Distribution of service years in police stations

The data was obtained from the flowing cities in Turkey: Ankara, Bitlis, Diyarbakir, Kars, Kayseri, Samsun, Siirt, and Sivas. The city populations vary from approximately the hundreds of thousands to several millions. In this study, the lowest city population is Kars (126127), and the highest, Ankara (4513921).

Table 4.10

City Distribution of Respondents

	Frequency	Percent	Population Size	Crime Rate
Ankara	280	43.6	4,513,921	118
Bitlis	32	5.0	168,988	59.95
Diyarbakir	78	12.1	1,079,160	93.94
Kars	15	2.3	126,127	115.12
Kayseri	66	10.3	1,027,279	153.47
Samsun	53	8.3	802,011	173.73
Siirt	28	4.4	183,924	50.73
Sivas	90	14.0	417,756	165.89
Total	642	100.0		

In order to obtain crime rates within cities in Turkey, the total of each city's number of violent crimes is divided by the city's population and then multiplied by 10,000. Crime rates are based on cases per 10,000 for 2006. In this study, crime rate only covers the total violent and property crime, as reported by the Main Command and Control Center (AKKM) in the headquarters of the Turkish National Police.

Bivariate Analyses

Before performing the multivariate analysis for variables context of keeping up-to-date and conducting police station tasks, a bivariate correlation matrix was created to present the levels of linear relationships (bivariate only) between the dependent and independent variables. The results of the bivariate correlation are presented in Table 4.11. The findings of bivariate correlation indicate that Hypotheses H_2, H_3, H_5, H_7, H_9 and H_{11}, were supported.

Table 4.11 indicates that service years in policing is positively correlated with information sources used by police officers in the context of conducting police station tasks (H_2) (r =.106, p <.01).

Table 4.11

Bivariate Analysis

	1	2	3	4	5	6	7	8	9
ISCT	-								
ISKD	.837**	-							
Years in policing	.106**	.078*	-						
Years in police stations	.099*	.077	.627**	-					
Age	.102**	.067	.933**	.602**	-				
Gender	-.003	-.085*	.107**	.113**	.175**	-			
Education	-.017	.015	-.405**	-.269**	-.376**	-.071	-		
Marital Status	.018	.013	.387**	.248**	.439**	.027	-.102**	-	
Position in Police Station	-.034	-.129**	.040	.027	.041	.272**	-.075	-.096*	-

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

According to the findings, there was a statistically significant positive linear relationship between the information sources used by police officers and their service years in police stations in the context of conducting police station tasks (r =.099, p <.05). Hypothesis H_3 explores the relationship between the information sources used by police officers and their service years in police stations in the context of conducting police station tasks. That is, as number of years in service in police stations increases, a police officer in a police station is more likely to make use of their information sources. Age is positively correlated with the information sources used by police officers in the context of conducting police station tasks (H_5) (r =.102, p <.01). Older police officers in police stations are more frequently using information sources than younger police officers.

Hypotheses H_7, H_9 and H_{11} also examine the relationship between the information sources used by police officers in the context of keeping up-to-date and their socio-demographic characteristics. First, there was a statistically significant positive linear relationship between the information sources used by police officers in the context of keeping up-to-date and their years policing (r =.078, p <.05). That is to say, with more years as a police officer, the officers make more frequent use of information sources, supporting H_7. As presented in Table 4.10, there was a statistically significant negative linear relationship between the information sources used by police officers and their gender in the context of keeping up-to-date (H_9) (r = -.085, p <.05). Hypothesis, H_{11} examines the relationship between the information sources used by police officers and their roles in the context of keeping up-to-date (r =-.129, p <.01).

In order to test Hypothesis $H_{4,}$ which explores the significant differences in the information sources used by police officers based on their gender in the context of conducting police station tasks, independent t-tests are employed. The results of the t-tests regarding H_4 are presented in Table 4.12 and Table 4.13. According the results, there is no statistically significant differences between gender and the frequency of information sources used by police officers in the context of conducting police station tasks. The t value of both variables is .087 and .089 (p >.05). Therefore, the results do not support Hypothesis $H_{4.}$

Table 4.12

Independent Samples Test: ISCT vs. Gender

	F	*t*	*df*	Sig. (2-tailed)	Mean Difference
Equal variances assumed	.065	.087	640	.931	.00613
Equal variances not assumed		.089	110.062	.929	.00613

*(2-tailed)

Table 4.13

Group Statistics: ISCT vs. vs. Gender

Gender	*n*	Mean	S. Deviation
Female	83	3.13	.58
Male	559	3.12	.60

Similarly, an independent samples *t*-test is used for analyzing $H_{9.}$ The hypothesis assumes that there are significant differences in the information sources used by police officers based on their gender in the context of keeping up-to-date. Both Tables 4.14-15 indicate that there is a statistically significant difference between gender and the frequency of information sources used by police officers in the context of keeping up-to-date ($t = 2.148$, $p < .05$). Thus, the results do support $H_{9.}$

Table 4.14

Independent Samples Test: ISKD vs. Gender

	F	*t*	*df*	Sig. (2-tailed)	Mean Difference
Equal variances assumed	1.386	2.148	640	.032	.154
Equal variances not assumed		2.020	103.7	.046	.154

Table 4.15

Group Statistics: ISKD vs. Gender

Gender	*n*	Mean	S. Deviation
Female	3.32	3.24	0.65
Male	3.17	3.17	0.60

For testing $H_{1,}$ one-way ANOVA is utilized. Hypothesis H_1 assumes that there are significant differences in the information sources used by police officers based on their educational level in the context of conducting police station tasks. Table 4.16 shows that there are no significant differences between the means of four levels of education and the frequency of information sources used by police officers in the context of conducting police station tasks (F=.499, p = .683). The value of eta^2 shows that a 0.2% of the variance was accounted for by educational level (eta^2 = .002).

Table 4.16

ANOVA ISCT vs. Education Level

	Sum of Squares	*df*	Mean Square	*F*	Eta^2	Sig.
Between Groups	.54	3	.180	.499	.002	.683
Within Groups	229.66	638	.360			
Total	230.20	641				

As presented in Table 4.17, all significance levels of education are bigger than the alpha value of. 05. That is, there are no differences in the means of education levels and do not support Hypothesis H_1.

Table 4.17

Multiple Comparisons ISCT vs. Education Levels

	ISCT Score			High School		2 year College		University	
	n	Mean	S.D.	Mean D.	Sig.	Mean D.	Sig.	Mean D.	Sig.
High School	83	3.135	.612						
2 year college	321	3.134	.589	-.001	1.000				
University	222	3.088	.611	-.047	.946	-.046	.855		
Master	16	3.240	.605	.105	.939	.106	.925	.152	.812

In the same vein, one-way ANOVA is employed in order to understand the relationship between education level and the information sources used by police officers in the context of keeping up-to-date (H_6). The findings of Tables 4.18-19 indicate that there are no significant differences in the information sources used by police officers based on their educational level in the context of keeping up-to-date ($F = 2.57$, $p = .053$). The value of eta^2 indicates that 1.2% of the variance was accounted for by educational level ($eta^2 = .012$).

Table 4.18

ANOVA ISKD vs. Education Level

	Sum of Squares	*df*	Mean Square	*F*	Eta^2	Sig.
Between Groups	2.89	3.00	.96	2.57	.012	.053
Within Groups	238.98	638.00	.37			
Total	241.87	641.00				

Table 4.18 also indicates that there is, to some extent, a significance difference between the master's level and university (p =.053). However, considering alpha .05 level, the results do not support Hypothesis H_6.

Table 4.19

Multiple Comparisons ISKD vs. Education Levels

	ISKC Score			High School		2 year College		University	
	n	Mean	S.D.	Mean D.	Sig.	Mean D.	Sig.	Mean D.	Sig.
High School	83	3.15	0.64						
2 year college	321	3.22	0.58	0.07	0.85				
University	222	3.14	0.64	-0.01	1.00	-0.07	0.60		
Master	16	3.55	0.64	0.40	0.13	0.33	0.22	0.40	0.053

In order to examine the relationship between the roles of police officers working in police stations and their use of information sources, one-way ANOVA was utilized in this study. Tables 4.20 indicates that there are significant differences in the information sources used by police officers based on their roles in the context of keeping up-to-date (F = 3.80, p =.002). The value of eta^2 indicated that 3 % of the variance was accounted for by differing roles in the police station (eta^2 = .030).

Table 4.20

ANOVA ISKD vs. Roles in Police Station

	Sum of Squares	*df*	Mean Square	*F*	Eta^2	Sig.
Between Groups	7.01	5	1.40	3.80	.030	.002
Within Groups	234.86	636	.37			
Total	241.87	641				

Tables 4.21 presents that the respondents working in other roles (*M* = 3.056) in police stations reported a statistically significant different ISKD score than justice police officers (*p* = .04). In addition, there is a significant difference between patrol officers and justice police officers at the .05 p level. On the other hand, except for patrol officers and the role of other in police stations, roles have no significant differences in ISKD scores. Finally, the results of Tables 4.21 support H_1

Table 4.21

Multiple Comparisons ISKD vs. Roles in Police Station

	ISCT Score			Administrative Officer		Justice Police Officer		Patrol Officer		Officer on duty		Dispatch Officer	
	n	Mean	S.D.	Mean D.	Sig.	Mean D.	Sig.	Mean D.	Sig.	Mean D.	Sig.	Mean D.	Sig.
Administrative Officer	117	3.235	.6160										
Justice police Officer	142	3.353	.5896	.117	.793								
Patrol Officer	243	3.141	.5858	-.094	.862	-.212	.05						
Officer on duty	49	3.048	.6058	-.187	.657	-.305	.10	-.093	.97				
Dispatch Officer	16	3.264	.7267	.029	1.00	-.089	1.00	.123	.99	.216	.91		
Other	75	3.056	.6700	-.180	.551	-.297*	.04	-.085	.95	.008	1.00	-.208	.91

Hypothesis H_{12} explores the relationship between the roles of police officers and information sources by police officers working in police stations in the context of conducting police station tasks. Tables 4.22 indicates that there are significant differences in the information sources used by police officers based on their roles in the context of conducting police station tasks (*F* = 2.698, *p* = .020). The value of eta^2

indicated that a 2.1 % of the variance was accounted for by roles in police station (eta^2 = .021).

Table 4.22

ANOVA ISCT vs. Roles in Police Station

	Sum of Squares	*df*	Mean Square	*F*	Eta^2	Sig.
Between Groups	4.78	5	.956	2.698	.021	.020
Within Groups	225.42	636	.354			
Total	230.20	641				

Overall, the results of Tables 4.22 and 4.23 show that there is a significance difference between the means of roles of police officer at the alpha level of .05. Therefore, the results of Tables 4.22 support Hypothesis H_{12}.

Table 4.23

Multiple Comparisons ISCT vs. Roles in Police Station

	ISSKC Score			Administrative Officer		Justice police Officer		Patrol Officer		Officer on duty		Dispatch Officer	
	n	Mean	S.D.	Mean D.	Sig.	Mean D.	Sig.	Mean D.	Sig.	Mean D.	Sig.	Mean D.	Sig.
Administrative Officer	117	3.058	.615										
Justice police Officer	142	3.275	.573	.217	.131								
Patrol Officer	243	3.084	.566	.027	1.00	-.19	.10						
Officer on duty	49	3.012	.592	-.046	1.00	-.26	.22	-.072	.99				
Dispatch Officer	16	3.165	.651	.107	.99	-.11	.99	.080	1.00	.152	.98		
Other	75	3.107	.683	.049	1.00	-.17	.56	.022	1.00	.094	.98	-.058	1.00

In addition, in order to explore the relationship between the size of the city in which data was collected and the information sources used by police officers, the cities are broken down into three new categories based on their population size. The first group has less than 400 thousand people (Bitlis, Kars, and Siirt); the second group, 400 thousand to 1 million (Samsun and Sivas); and third group more than 1 million people (Ankara, Diyarbakir, and Kayseri).

As noted in Table 4.24, City populations were not correlated with the information sources used by police officers either when conducting police station tasks or when keeping up-to-date. In other words, there were not statistically significant linear relationship between the size of city and the information sources used by police officers.

Table 4.24

ISCT & ISKD vs. City

		1	2	3
ISCT	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	642		
ISKD	Pearson Correlation	.837**	1	
	Sig. (2-tailed)	.000		
	N	642	642	
City	Pearson Correlation	-.039	-.034	1
	Sig. (2-tailed)	.328	.388	
	N	642	642	642

Multivariate Analysis

OLS Regression Results for the Information Sources

OLS' assumptions were checked. In this way, normality, linearity, homoscedasticity, and multicollinearity were especially examined. In terms of the independent variables education, gender, service years in policing, roles, and service

years in police stations, the points cluster in a band running from lower left to upper right. These results indicate that there was a positive relationship between the dependent variables of information sources used by police officers in the context of conducting police station tasks and keeping up-to-date and these five independent variables.

The linearity assumption of the multiple regression models was examined through scatterplots. In addition, the assumption of OLS, heterocedasticity was not violated.

In this study, skewness and kurtosis scores of variables were tested for the normality assumption. None of the values were skewed or kurtotic (see Table 4.1). In addition, the multicollinearity assumption was checked. Table 4.2 indicates that age is highly correlated with service years in policing (r =.933). Thus, age is excluded from multivariate models. The results were also checked using a variance inflation factor that indicated that the data did not have a multicollinearity problem since all variables produced *VIF* scores between 1 and 2 after removing age from models. This results indicated that the score of VIF was not problematic (Lim, Bond, & Bond, 2005; Gujarati, 2003; DeMaris, 2004).

In the first model, regression analysis was performed to measure the impacts of independent variables education, gender, service years in policing, roles, and service years in police stations on the information sources used by police officers in the context of conducting police station tasks (ISCT). The equation of Model 1 was:

$$E_{(\text{ISCT})} = \alpha + \beta_1 X_{\text{Education}} + \beta_2 X_{\text{Gender}} + \beta_3 X_{\text{Service Years in Policing}} + \beta_4 X_{\text{Roles in Police Stations}} + \beta_5 X_{\text{Service Years in Police Stations}} + e$$

The results of the regressions are presented in Table 4.25. According to the findings of Model 1, 1.5% of the variation in the information sources used by police officers in the context of conducting police station tasks was explained by education, gender, service years in policing, roles, and service years in police stations (R^2 =.015).

The overall F test for Model 1 indicates that that there was not sufficient evidence to reject the null hypothesis (F =1.964). Finally, all variables in Model 1 had no significant impact on the information sources used by police officers in the context of conducting police station tasks. Each variable has a differential predictive value on the information sources used by police officers in the context of conducting police station tasks. Table 4.25 indicates that the best predictor of information sources used by police officers in the context of conducting police station tasks was the service years in policing variable, which accounts for approximately 1% of the variation in the dependent variable (β = .086). The second important predictor was positions in police stations (β = .054).

Table 4.25

OLS Regression Results for Information Sources

Model	Model 1 (ISCT)		Model 2 (ISKD)	
	B (SE)	Beta	B (SE)	Beta
Independent Variables				
Years in policing	.008 (.005)	.086	.007 (.005)	.075
Years in police stations	.007 (.007)	.054	.007 (.007)	.053

(continued)

Table 4.25 *(continued).*

Model	Model 1 (ISCT)		Model 2 (ISKD)	
	B (SE)	Beta	B (SE)	Beta
Gender	-.013 (.073)	-.007	-.118 (.075)	-.065
Education	.025 (.036)	.029	.041 (.037)	.047
Roles in police stations	-.017 (.019)	-.035	-.055** (.020)	-.112
Model R^2	.015		.031	
Model F	1.964		4.010**	

a. Dependent Variables: ISCT and ISKD; * p <0.05, ** p <0.01

Model 2 attempts to estimate the impacts of education, gender, service years in policing, roles, and service years in police stations on the information sources used by police officers in the context of keeping up-to-date (ISKD). The equation of Model 1 was as follows:

$$E_{(\text{ISKD})} = \alpha + \beta_1 X_{\text{Education}} + \beta_2 X_{\text{Gender}} + \beta_3 X_{\text{Service Years in Policing}} + \beta_4 X_{\text{Roles in Police Stations}} + \beta_5 X_{\text{Service Years in Police Stations}} + e$$

There was a 3.1% variation in the information sources used by police officers in the context of keeping up-to-date that was explained by the predictors in Model 2 (R^2 =.031). Based on the *F* value in Model 2, at least one independent variable has a non-zero relationship with the dependent variable (F = 4.010, p <.01).

Table 4.25 indicates that the best predictor of information sources used by police officers in the context of keeping up-to-date was roles in police stations (β = -.112), and followed by service years in policing (β = .075), gender (β = -.065), service years in police stations (β = .053), and education (β = .047). The findings in Model 2 indicate that except for the role a police officer in police stations, the rest of the variables have no significant effect on the information sources used by police officers in the context of keeping up-to-date. The role of police officers has a significant, negative effect on the information sources used by police officers in the context of keeping up-to-date (*B* =-.055, p <.01).

Summary of Analysis and Findings

The findings of this study, to some extent, help explain the three research questions regarding Information-seeking behavior of police officers. The use of information sources for tasks and the use of information sources for keeping up-to-date dependent variables with six independent variables (education, service years in policing, roles of police officers, service years in police stations, gender and age) were employed to examine the information-seeking behavior of police officers working in police stations. In doing so, descriptive, bivariate and multivariate analyses were utilized.

The descriptive analysis indicated that police officers initially consulted their personal knowledge and experience, and then used official documents as information sources in the context of conducting tasks. On the other hand, in the same context, they rarely consulted informants, printed journals, libraries and attendance at conferences as

information sources. The descriptive analysis also determined that police officers more frequently used legal documents and their colleagues as information sources regarding keeping up-to-date. Contrary to expectation, libraries, printed journals, attendance at conferences, citizens, and books were hardly ever used as information sources in the context of keeping up-to-date.

The results of bivariate analyses indicated that Hypotheses H_2, H_3, H_5, H_7, H_9, H_{11} and H_{12}, were supported. As noted in Table 4.13, there were significant differences in the information sources used by police officers based on their gender in the context of keeping up-to-date. Thus, the findings do support Hypothesis H_9. However, there were no significant differences in the information sources used by police officers based on their gender in the context of conducting police station tasks (H_4).

In the findings related to the relationship between educational level and the use of information sources, surprisingly, there were no significant differences in the information sources used by police officers based on their educational level in the context of conducting police station tasks. Therefore, Hypothesis H_1 was not supported. In the same fashion, in the context of keeping up-to-date, there were no significant differences in the information sources used by police officers based on their educational level. Thus, this result do not supported H_6.

Finally, the results of the bivariate analyses supported Hypotheses H_{11} and H_{12} which argued that there were significant differences in the information sources used by police officers based on their roles in the context of keeping up-to-date and in the context of conducting police station tasks.

In this study, the last utilized analysis was OLS regression covering two models. In the first model of OLS, regression analysis was performed to measure the effect of education, gender, service years in policing, roles and service years in police stations on the information sources used by police officers in the context of conducting police station tasks (ISCT). Contrary to expectation, no variable had any significant impact on the information sources used in the context of conducting police station tasks (ISCT).

The second model attempts to estimate the impacts of education, gender, service years in policing, roles, and service years in police stations on the information sources used by police officers in the context of keeping up-to date. The outcomes of OLS regression indicated that (in the expected direction) the role of police officers had a statistically significant impact on the information sources used by police officers in the context of keeping up-to-date. However, the remaining variables did not have statistically significant effect in this context.

CHAPTER V

DISCUSSION AND CONCLUSION

Introduction

This chapter takes under consideration of the findings in chapter 4. Regarding three research questions, the study tested several hypotheses. The main goal was to examine the information-seeking behavior of police officers who work in police stations in the Turkish National Police (TNP). Based on these aims, this chapter discusses the results of the analysis and the implications of the study's outcomes for Leckie et al.'s (1996) model of the information-seeking behavior of professionals. Lastly, there is a discussion on policy, theoretical and methodological implications, the study's limitations, and suggestions for future studies.

Discussion

One of the main purposes of the study was to test Leckie et al.'s (1996) model of the information-seeking behavior. As noted in the previous chapter, the findings of the study are consistent with Leckie et al.'s (1996) model of the information-seeking behavior of professionals. Based on the theoretical framework of Leckie et al.'s (1996) general model of the information seeking of professionals, the variables education, service years in policing, service years in police stations, gender, and age were used to determine the information-seeking behavior of police officers who work in police stations in the Turkish National Police (TNP). In addition, these variables were also taken into consideration as to whether they had a significant effect on the use of information sources.

The statistical analyses revealed several important findings regarding the information-seeking behavior of police officers. The descriptive statistics showed that police officers in police stations mainly consulted their personal knowledge and experience for conducting their tasks and then turned to legal documents and colleagues. The order of information sources for police officers was similar to many professional occupations. Al Daihani and Rehman (2007) found similar results. That is, police officers very often used official memos as information sources. Von Seggern (1995) revealed that scientists initially used their own collection of information before consulting colleagues. In the same fashion, Ellis and Haugan (1997) found the same information seeking patterns among research scientists. Besides scientists, similar results were found in other occupations, such as engineers (Fidel & Green, 2004; Kwasitsu, 2003), lawyers (Haruna & Mabawonk, 2002), and nurse practitioners (Cogdill, 2003).

The least frequent use of information sources was libraries, another important finding of the study and also consistent with prior research. Consequently, police officers in police stations in Turkey, by and large, reflected a similar pattern of information-seeking behavior with several occupations.

However, the information-seeking behavior of police officers, to some extent, differed from other occupations regarding the context of keeping up-to-date. The findings presented in the previous chapter indicated that the most frequently used information source was colleagues, followed by departmental manuals and guides, Police Network (POLNET), and Internet websites.

Prior research indicated that several researchers attempted to examine the relationship of various types of tasks with information behavior (Abouserie, 2003; Schacter, Chung & Dorr, 1998; Bystrom, 2002; Culnan, 1983; McNally, 2005; Zeffane & Gul, 1993). The findings of this study indicated that there were significant differences in the information sources used according to the roles used by police officers for both the context of keeping up-to-date and conducting police tasks. Similarly, Strother and Lancaster (1986) revealed that practicing dentists frequently need to use information sources for keeping up-to-date. For this reason, they often tend to consult their colleagues, books, journals, attendance education, and conferences for gathering information (Strother &Lancaster, 1986). As professionals, police officers and practicing dentists are continually in the process of keeping up-to-date, since both professions' roles are related to serving human clients, as well as to furthering the development of their roles.

Leckie et al. (1996) underlined the importance of roles for determining information sources regarding the context of keeping up-to-date and conducting tasks. They state, "an ongoing aspect of a professional's work is keeping up with the advancements in one's field and upgrading one's education and skills by taking courses" (p. 182). As noted in the literature review, aside from practicing dentists, nurses and physicians also broadly make use of information seeking behaviors while conducting their tasks. Therefore, this finding is consistent with existing research.

In this study, education was used as an independent variable measured through five categories: high school, two-year college, university, master degree, and doctoral degree. Regarding the context of conducting police station tasks, the findings

presented in the previous chapter indicated there were no statistically significant differences between the information sources used by police officers based on their educational levels (H_1). Similarly, the result also indicated a non-significant relationship between the information sources used by police officers and their educational level in terms of staying current (H_6). Likewise, Stefl-Mabry (2005) revealed that education had no effect on the choosing of information sources. In the same fashion, Al Daihani and Rehman (2007) found no significant differences regarding use of information sources and educational level.

On the other hand, recent studies regarding Information-seeking behavior in law enforcement conducted in Turkey found valuable results. Kilic (2010) revealed that there was a positive relationship between education and the frequency of using information sources. Demircioglu (2010) also concluded that the educational level of Crime Scene Investigators was highly correlated with the use of information sources related to staying current. Therefore, the results of this study were not consistent with the expected direction.

The number of years in police service is another important variable that was investigated in order to explore its effect on the use of information sources. It was also called “experiences” in some studies. The findings show that there were statically significant differences in the information sources used by police officers in both the context of conducting police station tasks and in keeping up-to-date (H_2 and H_7). Brand-Gruwel, S., Wopereis, and Vermetten (2005) underlined important differences in the use of information sources between novices and experts in various professions. For

example, they found that experts were more likely to evaluate the information than novices.

Aksakal (2005) evaluated experience as an important part of Information-seeking behavior of undercover professionals. For example, O'Connor and Copeland's (2003) studies indicated that the process of information-seeking behavior can be improved through experience, such as in the case of a bounty hunter and a submarine chaser. LIoyd (2007) also found that a significant relationship existed between years in service as a police officer and the use of information. Like LIoyd (2007), Kilic (2010) concluded that police officers with more experience had a stronger tendency to use information sources than less experienced police officers. Therefore, the findings of this study are consistent with these prior works.

A large amount of literature indicates that age is highly correlated to the use of information sources (Leckie et al., 1996; Stefl-Mabry, 2005; Ren, 1999; Stinson & Mueller, 1980; Demircioglu, 2010). Age may be considered as directly related to experience. As noted in Table 4.10, there was such a very strong association between age and service years in policing (r = .933, p <.01) that it was excluded in the multivariate analysis. Based on the bivariate analysis, the findings indicated that there were significant differences in the information sources used by police officers based on their age in the context of conducting police station tasks and in the direction predicted by Hypothesis H_5. Contrary to expectations, the results of bivariate analysis showed that there were significant differences in the information sources used by police officers based on their age in terms of keeping current (H_{10}).

Table 5.1

Summary of Hypotheses Testing for the Information Sources

	Hypotheses	Results
H1	There are significant differences in the information sources used by police officers based on their education level in the context of conducting police station tasks.	Not Supported
H2	There are significant differences in the information sources used by police officers based on their service years in policing in the context of conducting police station tasks.	Supported
H3	There are significant differences in the information sources used by police officers based on their service years in police stations in the context of conducting police station tasks.	Supported
H4	There are significant differences in the information sources used by police officers based on their gender in the context of conducting police station tasks.	Not Supported
H5	There are significant differences in the information sources used by police officers based on their age in the context of conducting police station tasks.	Supported
H6	There are significant differences in the information sources used by police officers based on their educational level in the context of keeping up-to-date.	Not Supported
H7	There are significant differences in the information sources used by police officers based on their service years in policing in the context of keeping up-to-date.	Supported
H8	There are significant differences in the information sources used by police officers based on their service years in police stations in the context of keeping up-to-date.	Not Supported
H9	There are significant differences in the information sources used by police officers based on their gender in the context of keeping up-to-date.	Supported
H10	There are significant differences in the information sources used by police officers based on their age in the context of keeping up-to-date.	Not Supported
H11	There are significant differences in the information sources used by police officers based on their roles in the context of keeping up-to-date.	Supported
H12	There are significant differences in the information sources used by police officers based on their roles in the context of conducting police station tasks.	Supported

Like age, gender is another key demographic characteristic in determining the Information-seeking behavior of police officers. In this study, it assumed that there are significant differences in the information sources used by police officers based on their gender in the context of keeping up-to-date and in conducting police stations tasks (H_4 and H_9). Regarding the context of staying current, the findings produced the expected results; there are significant differences in the information sources used by police officers based on their gender. On the other hand, the same results were not found for the context of conducting police station tasks and thus did not support Hypothesis H_4. Similar results were found by Stefl-Mabry (2005). Consequently, prior research and these results are consistent.

Policy Implications

The findings of this study provide a few important implications for future studies and for policies related to the Information-seeking behavior of police officers in Turkey. The implications of this study might attract the attention of police supervisors, policy makers, and police administrators. As noted, educational level correlated with the information sources used by police officers regarding staying current. This result underlines the importance of training programs for police officers. Based on the findings, programs can be put into place in order to provide more appropriate information sources for police officers in police stations in terms of keeping up-to-date.

Aside from education, the variables experience, age, and gender are important in the process of information-seeking behavior. Therefore, policy makers might make an adjustment to TNP's organizational structure in order to encourage more experienced officers to mentor newer officers in process of finding information and to encourage new

officers to seek out their knowledge. The result of the descriptive statistics here determined that the library is the one of the least used information sources among police officers. The policy allowed that the prevalence of the library in the police structure might contribute to use of libraries by police officers working in police stations. While female officers generally tended to use information sources less than their male counterparts, this study did not take into account gender based on the roles in the police station. As such, more research is needed in order to verify whether policy is needed concerning gender.

Younger police officers were more likely to use the Internet and POLNET than older officers. There are obvious advantages to using these sources, both for keeping up to date and for finding useful information. Thus, policy might be created to encourage older police officers to take advantage of these powerful tools, including training programs teaching the use of computers and the Internet.

Finally, all these suggestions aim to increase the effectiveness of police activities in preventing crime and maintaining justice by improving Information-seeking behaviors in general. Aside from these suggestions, considering the findings of this study, it is clear that to combat crime effectively will require more than policy amendments. Individuals, social institutions, social factors, organizations, businesses, and community resources are useful sources of information and should be considered when designing policies based on these findings. Therefore, policy makers should design broad programs regarding the improvement of any information sources used by police officers.

Theoretical Implication

Scholars have used different approaches for studying the information-seeking behavior of many different occupations. In this study, Leckie et al.'s (1996) model of professionals' information-seeking was employed. For formulating the model, Leckie et al.'s (1996) mainly focused on the Information-seeking behavior of engineers, medical providers, and scientists. The model is very comprehensive. Leckie et al. (1996) argued that the general model of the information seeking of professionals is "applicable to all professionals" (p. 161). This study used a model similar to Leckie's and found similar results and thus contributes to the development of the theoretical background.

One important contribution is to add to the literature review of future studies on Information-seeking behavior related to police officers working police stations as professionals and to professionals in general. Therefore, the study may create a stepping stone for scholars to study law enforcement and their Information-seeking behavior.

The study tested two components of the model, one being the sources of information and the other being work roles. The sources of information components were evaluated through the context of conducting police station tasks and staying current. It is clear that there was an important variation in both contexts. The findings indicated that the context determines the source of information used among police officers in police stations, complementing prior research. Future research on information behavior may pay more attention to the larger context of society.

Context plays an important function in information behavior. The literature indicates that information behavior research has emphasized specific contexts, such as

an individual's situation and setting (Fisher & Julien, 2009). Fisher and Julien (2009) see context as dynamic and complex. For Kari and Savolainen (2007), context is a driving force of information seeking. Cool (2001) broadly describes context as "frameworks of meaning, and situations are the dynamic environments within which interpretive processes unfold, become ratified, change, and solidify" and that "when people interact with information resources, an interaction situation is constructed, albeit within some context" (p. 9). Case (2007) cited the definition of context from Dewey, "a spatial and temporal background which affects all thinking" (p. 330). From this point of view, many factors may be contextual, such as the rules and structure of an organization or the behaviors of professionals. Case (2007) further states that "context and situation are important concepts for information behavior research, even if they are ill defined. Information needs do not arise in a vacuum, but rather owe their existence to some history, purpose, and influence" (p. 244). Fidel and Pejtersen (2004) argue that under defined boundaries, the expected information behavior may be easily analyzed in a particular context.

Taken together, the findings of this study confirmed Leckie et al.'s (1996) concern about context. They argued that "an 'information need' is not constant and can be influenced by a number of intervening factors" (p. 182). According to Leckie et al. (1996) aside from frequency, predictability, importance, complexity, records management system, and the complex fashion, individual demographics and context are also important factors. Regarding the police profession the study examined both factors. Based on these findings, future studies may provide a better understanding of task complexity and other professionals' information-seeking behavior in different

context for extending Leckie et al.'s (1996) model, and in turn, illuminate any unknown factors in the Information-seeking behavior of the professional.

Methodological Implication

Taking into account the complexity of human information behavior, many scholars argue that multiple methods are essential to fully grasp human information behavior. Simply using only qualitative or only quantitative research method designs is not enough to see the whole picture of the Information-seeking behavior of all professionals. Instead it is necessary to use multiple approaches.

In this sense using a mixed method approach might be more helpful for a broad understanding of the Information-seeking behavior of police officers. A mixed approach provides the researcher with two or more different research strategies for collecting data. This increases the validity of the data gathered from various sources. In qualitative methods, the use of a semi-structured interview method may be more appropriate to understand Information-seeking behavior because it allows both the interviewer and interviewee flexibility to probe for details and discuss issues. Using semi-structured interviews, the researcher may investigate the respondents for more detailed information. The semi-structured interview technique allows the researcher to access detailed information about the perceptions of police officers. Semi-structured interviews provide the researcher with flexibility because an answer to one question may influence and prompt him/her to ask questions more directly linked to the research topic.

In this study, the use of information sources for tasks was measured through a

scale of 31 items. The use of information sources for staying current was measured with a scale of 23 items. The complexity of police tasks required the use of a variety of information sources. However, the categorizing of information sources into six groups, as Leckie et al. (1996) proposed, may produce better outcomes.

Limitations and Future Research

The goal of this study was to examine the Information-seeking behavior of police officers working in police stations. Being the first to examine this profession, it is natural that there are limitations. It is an untapped area where it is difficult to create a theoretical background. As well, several fundamental limitations should also be noted.

First, the most important limitation of this study was the cross-sectional design. The researcher cannot see the changes over time (Singleton & Straits, 2005). Cross-sectional studies do not provide adequate evidence to conclude that social demographic factors cause individuals to use some information sources more than others. Thus, suggested future research should use longitudinal data.

Second, the study just covered the Information-seeking behavior of police officers working in police stations in Turkey. Therefore, the findings of this study are more related to the country of Turkey. On the other hand, researchers may get the benefit of methodological approaches.

Third, only two components of Leckie et al.'s (1996) general model of the Information-seeking behavior of professionals were tested in this research owing to time and budget concerns. It did not test all aspects of model. Thus, the study may not see the whole picture regarding the Information-seeking behaviors of police officers.

Fourth, the study utilized a quantitative research design. However, considering the complexity of Information-seeking behavior, it would be difficult to accurately understand the picture of information-seeking behavior of police officers. Therefore, the future researchers should also use a qualitative research design, such as interviews, besides quantitative research.

Finally, the study did not take into account geographical conditions or work-loads. Based on these factors, it may be seen that there is a variation in the use information sources among the police officers. Thus, future studies should pay attention to these factors to more deeply analyze the information-seeking behaviors of police offices. Despite of these limitations, this study provides important understanding of the elements contributing to the information-seeking behaviors of police offices. This study is an important basis for researchers seeking information behavior of police officers working in police stations.

APPENDIX A

IRB APPROVAL

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OFFICE OF THE VICE PRESIDENT FOR RESEARCH AND ECONOMIC DEVELOPMENT
Research Services

August 9, 2010

Dr. Brian C. O'Connor
Department of Library and Information Sciences
University of North Texas
RE: Human Subjects Application No. 10-337

Dear Dr. O'Connor:

In accordance with 45 CFR Part 46 Section 46.101, your study titled "The Information Seeking Behavior of Police Officers in Turkish National Police in Turkey" 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 for the paper survey** 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. 3940, 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. Kaminski, Ph.D.
Associate Professor
Chair, Institutional Review Board

PK:js

1155 Union Circle #305250 | Denton, Texas 76203-5017 | TEL 940.565.3940 | FAX 940.565.4277
TTY 940.369.8652 | research.unt.edu

APPENDIX B

QUESTIONNAIRE

Consent Notice

Dear Colleagues,

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: The Information Seeking Behavior of Police Officers in Turkish National Police

Principal Investigator: The study is conducted under the supervision of University of North Texas (UNT) faculty (….) from Department of Library and Information Sciences.

Purpose of the Study: This survey is prepared to determine the information-seeking behavior of police officers who work in police stations in Turkish National Police (TNP) in Turkey.

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: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you. However, the findings of this study can help designing better training programs, designing or modifying systems according to specific needs of police officers and better allocation of police officers to appropriate tasks within police organization.

Compensation for Participants: There will be no compensation for completing the questionnaire.

Procedures for Maintaining Confidentiality of Research Records: The confidentiality of your individual information will be maintained in any publications or presentations regarding this study. No personal identifiable information will be collected and your responses will be kept confidential.

Questions about the Study: If you have any questions about the study, you may contact (….) via email: (….) or to (….) via email: (….)

Review for the Protection of Participants: This research study will be reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (…..) with any questions regarding the rights of research subjects.

Research Participants' Rights: by selecting the "I Agree" button you acknowledge that you have read the consent form and are willing to participate in this study.

__ I agree __ I don't agree

Information Sources to use for police station -related tasks
Q-1. Based on your position, role(s), and associated tasks, while conducting task in police stations, among the following possible information sources please indicate the appropriate sources that you use, apply, and consult with.
Please choose the appropriate response for each item and mark all that may apply.

I. CHARACTERISTICS OF INFORMATION SOURCES FOR POLICE STATIONS -RELATED TASKS						
How often do you use given information sources at work?		**Never**	**Rarely**	**Sometimes**	**Often**	**Always**
1	Books	1	2	3	4	5
2	Printed journals	1	2	3	4	5
3	Departmental manuals and guides	1	2	3	4	5
4	Official circulars and memos	1	2	3	4	5
5	Legal documents (codes)	1	2	3	4	5
6	Governmental documents (e.g. official gazette)	1	2	3	4	5
7	Departmental archives	1	2	3	4	5
8	Prosecutor	1	2	3	4	5
9	Attendance at conferences	1	2	3	4	5
10	Databases (i.e. crime, personnel etc.)	1	2	3	4	5
11	Police Network (POLNET)	1	2	3	4	5
12	In-service training documents	1	2	3	4	5
13	Internet Websites	1	2	3	4	5
14	Informants	1	2	3	4	5
15	Victim(s)	1	2	3	4	5
16	Witness(s)	1	2	3	4	5
17	Relative(s)/Friend(s) of victim(s)	1	2	3	4	5
18	Suspect(s)	1	2	3	4	5
19	Mass Media (newspapers, Tv)	1	2	3	4	5
20	Libraries	1	2	3	4	5
21	Personal files and folders	1	2	3	4	5
22	My personal knowledge and experience	1	2	3	4	5
23	First responders such as patrol officers	1	2	3	4	5
24	Responsible investigation unit's officers such as homicide detectives	1	2	3	4	5
25	Emergency Medical Service Personnel	1	2	3	4	5
26	My Shift Commander	1	2	3	4	5
27	Another Shifts' commander	1	2	3	4	5
28	The colleagues in my shift	1	2	3	4	5
29	The colleagues in other shift	1	2	3	4	5
30	Station Commander	1	2	3	4	5
31	Other sources or people: Please explain					

Q-2. How often do you use the following resources as a source of information to stay current in your field? Please choose the appropriate response for each item and mark all that may apply.

II. CHARACTERISTICS OF INFORMATION SOURCES STAYING CURRENT IN THE FIELD						
How often do you use the following resources as a source of information to stay current in your field?		**Never**	**Rarely**	**Sometimes**	**Often**	**Always**
1	Books	1	2	3	4	5
2	Printed journals	1	2	3	4	5
3	Departmental manuals and guides	1	2	3	4	5
4	Official circulars and memos	1	2	3	4	5
5	Legal documents (codes)	1	2	3	4	5
6	Governmental documents (e.g. official gazette)	1	2	3	4	5
7	Departmental archives	1	2	3	4	5
8	Prosecutor	1	2	3	4	5
9	Attendance at conferences	1	2	3	4	5
10	Databases (i.e. crime, personnel etc.)	1	2	3	4	5
11	Police Network (POLNET)	1	2	3	4	5
12	In-service training documents	1	2	3	4	5
13	Internet Websites	1	2	3	4	5
14	Citizens	1	2	3	4	5
15	Mass Media (newspapers, Tv)	1	2	3	4	5
16	Libraries	1	2	3	4	5
17	Personal files and folders	1	2	3	4	5
18	My Shift Commander	1	2	3	4	5
19	Another Shifts' commander	1	2	3	4	5
20	The colleagues in my shift	1	2	3	4	5
21	The colleagues in other shift	1	2	3	4	5
22	Station Commander	1	2	3	4	5
23	Other sources or people: Please explain					

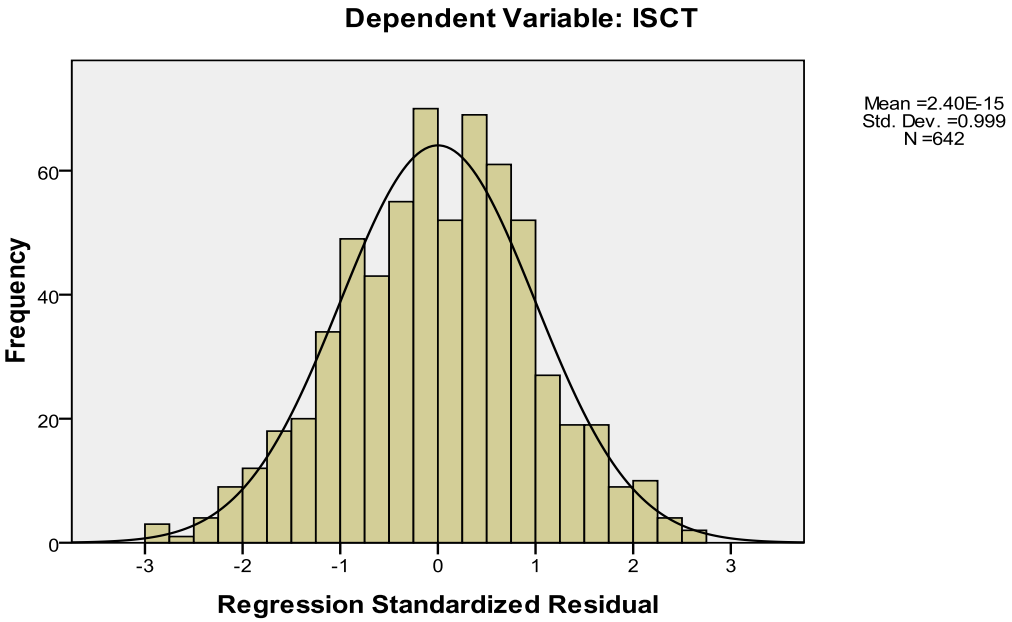
III. DEMOGRAPHICS

1. What is your gender? __Male __Female	**2. How old are you?** ……. years old.
3. What is your marital status? __Single __Married	**4. Which city are you working in?** ……
5. How many years have you been working in police force? ……. years	**6. How long have you been working in police stations?** ……
7. What is the highest level of education completed? **1.** __ High School **2.** __ 2 year college **3.** __ University **4.** __ Masters **5.** __ Ph.D.	**8. What is your current position in police stations?** 1. __ Dispatch Officer 2. __ Administrative Officer 3. __ Justice police Officer 4. __ Patrol Officer 5. __ Officer on duty 6. __ Other
The questions are over. Thank you for your time.	

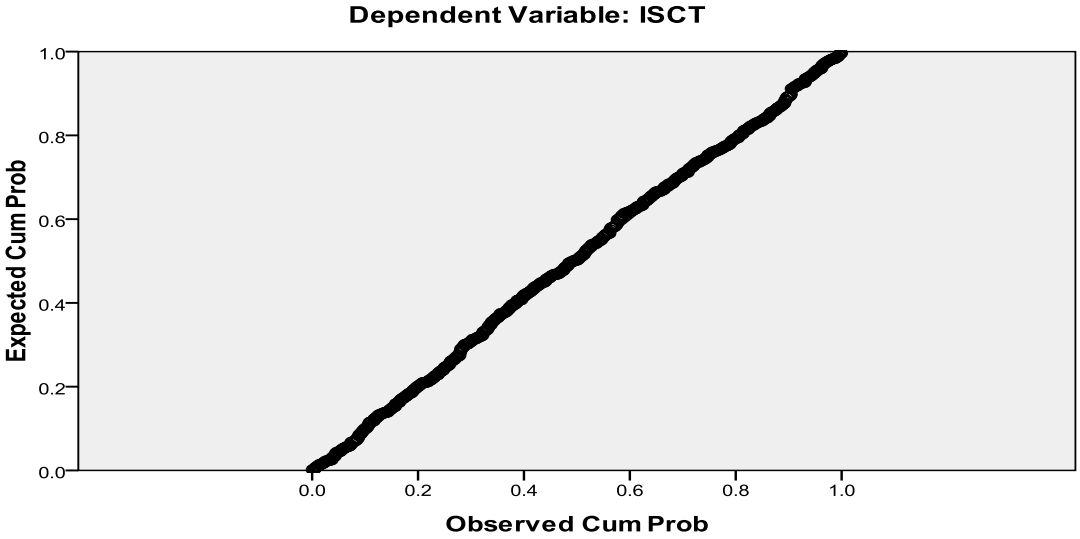
APPENDIX C

STANDARDIZED ERROR SCATTER PLOT AND HISTOGRAM FOR ISCT SCORES

Histogram

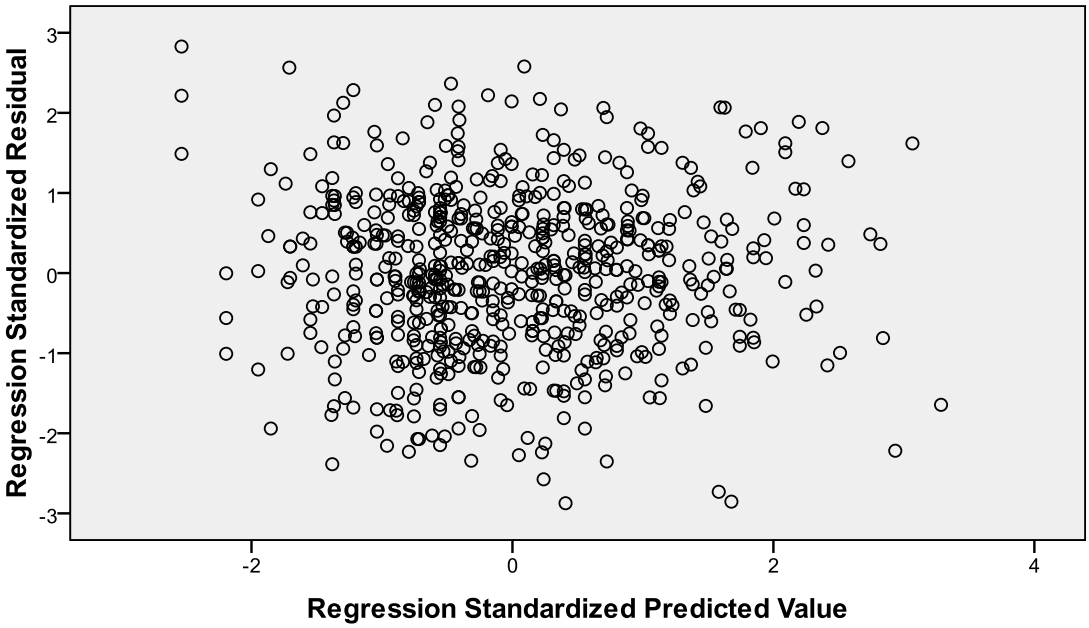


Normal P-P Plot of Regression Standardized Residual



Scatterplot

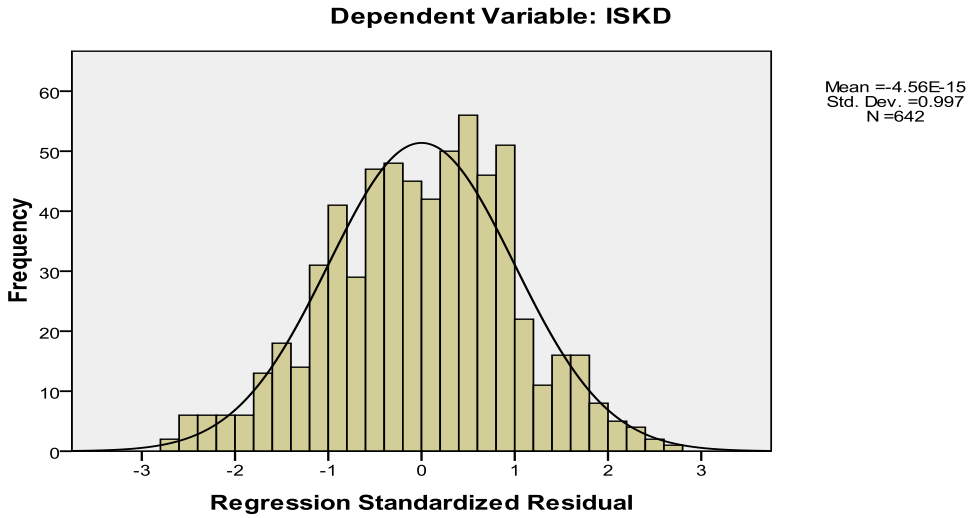
Dependent Variable: ISCT



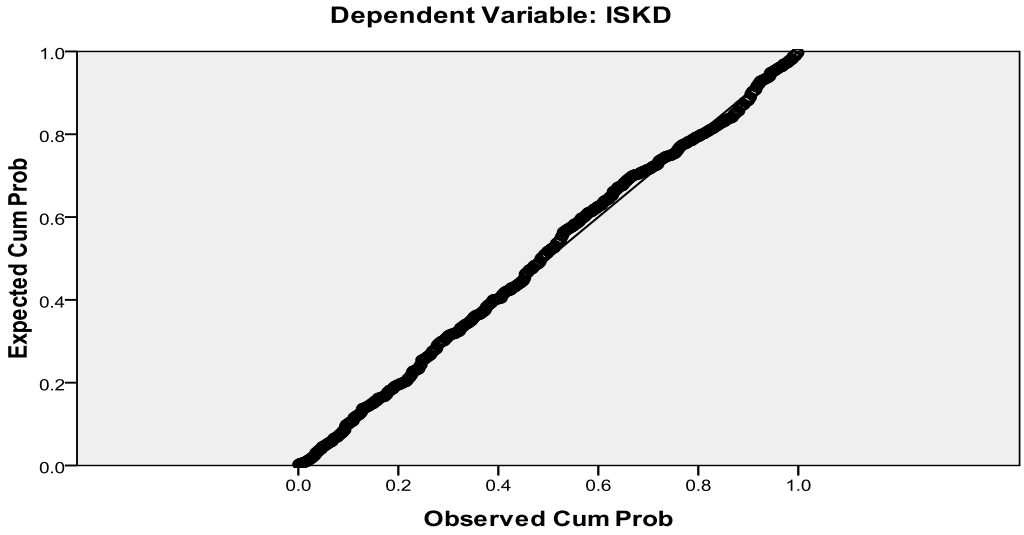
APPENDIX D

STANDARDIZED ERROR SCATTER PLOT AND HISTOGRAM FOR ISKD SCORES

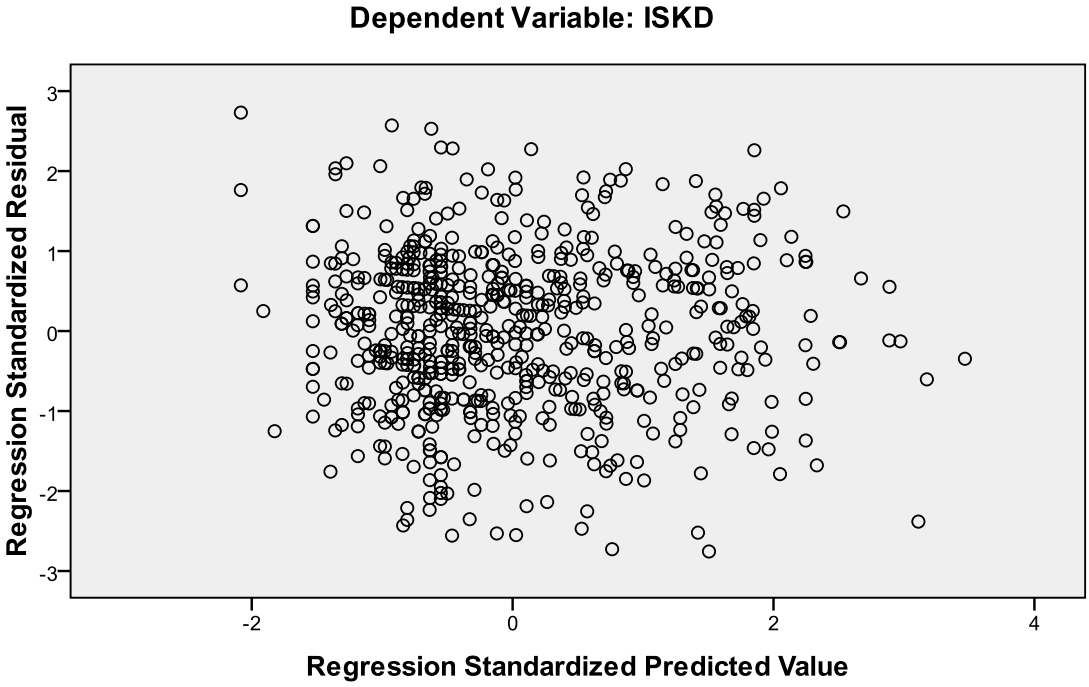
Histogram



Normal P-P Plot of Regression Standardized Residual



Scatterplot



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