SELF-PERCEIVED INFORMATION SEEKING SKILLS AND SELF-ESTEEM IN ADOLESCENTS BY RACE AND GENDER

Lynne Simpson-Scott, B.A., M.S.L.S.

Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

May 2009

APPROVED:

Linda Schamber, Major Professor and Associate Director of Ph.D. Program
Yvonne Chandler, Committee Member
Gerald Knezek, Committee Member
Jon Young, Committee Member
Herman L. Totten, Dean of the College of Information
Michael Monticino, Interim Dean of the Robert B. Toulouse School of Graduate Studies

The purpose of this study was to explore the correlation between self-perceived information seeking skills and self-esteem in adolescents and, further, to determine whether this correlation varied according to race and gender. Tenth-grade students from three public high schools in a Midwestern city were given two instruments. Self-perceived information seeking skills were measured using a modified version of the Information Skills Checklist from High Plains Regional Technology in Education Consortium’s Profiler website. Self-esteem was measured by the Tennessee Self-Concept Scale, which is designed for students 12 years of age and over. The scale has six separate measures of self-esteem: physical, moral-ethical self, personal self, family self, social self and academic self. These six measures are used to determine overall level of self-esteem.

The results showed a statistically significant correlation between self-perceived information seeking skills and at least one facet of self-esteem for all groups measured, with one exception. African American males were the only adolescents to show no correlation between scores from these two instruments. It is hoped that this research will ultimately be used to develop policies regarding the development of information seeking skills in disenfranchised groups.
Copyright 2009

By

Lynne Simpson-Scott
ACKNOWLEDGMENTS

I would like to express my sincere gratitude to the following people, without whom this effort may have never been realized.

My mother, Dr. Wessylyne Alford Simpson, who continued her family’s dedication to scholarship and showed me that a woman can be a mother and obtain her educational goals.

My father, Mr. James Allan Simpson, who started a legacy of education among his siblings that continues to this day. The most important trait that we share is our intellectual curiosity. I hope that I can maintain that in my life as you have.

I am indeed challenged and elevated by the families from which I descended: the Alfords and the Simpsons. Success is our only option.

Dr. Linda Schamber, my dissertation chair, you have exhibited patience, kindness, and brilliance at every turn. You will serve as an example to me throughout my career.

Dr. Gerald Knezek and Dr. Jon Young, committee members, your guidance and direction throughout my curriculum and this project will always be appreciated and respected.
Dr. Yvonne Chandler, more than a committee member, you have been a consummate intellectual, a caring mentor, and a most trusted confidante. Beyond my own family, there is no one who has been more encouraging or important to this effort.

I will forever be thankful for the contribution of my daughter, Sydney, who has been patient beyond her years throughout my program. She has had to sit through more classes and meetings than I can count. My dear daughter, I share this accomplishment with you in countless ways.
TABLE OF CONTENTS

ACKNOWLEDGEMENTS.................................................................................................................... iii
LIST OF TABLES .................................................................................................................................. vii
LIST OF FIGURES ............................................................................................................................. ix
Chapter

CHAPTER 1 INTRODUCTION ............................................................................................................. 1
  Statement of the Problem .................................................................................................................. 2
  Significance of the Study ................................................................................................................. 3
  Research Questions ......................................................................................................................... 4
  Methodology .................................................................................................................................. 5
  Terminology .................................................................................................................................... 5
  Race Defined ................................................................................................................................... 6
  Summary ......................................................................................................................................... 7

CHAPTER 2 LITERATURE REVIEW ................................................................................................. 9
  Introduction ..................................................................................................................................... 9
  Social Capital .................................................................................................................................. 10
  Information Literacy ....................................................................................................................... 11
  Self-Esteem and Adolescents ......................................................................................................... 13
  Information Seeking and Adolescents ............................................................................................. 15
  Information Seeking and Self-Esteem ............................................................................................... 16
  Information Seeking and Gender .................................................................................................... 17
  Gender and Self-Esteem ................................................................................................................... 19
  Race and Self-Esteem ....................................................................................................................... 20
  Information Seeking and Race ........................................................................................................ 23
  Academic Achievement and Race ................................................................................................... 24
  Summary ......................................................................................................................................... 30

CHAPTER 3 METHODOLOGY ........................................................................................................... 32
  Introduction ..................................................................................................................................... 32
# LIST OF TABLES

<table>
<thead>
<tr>
<th></th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>High schools surveyed................................................................. 33</td>
</tr>
</tbody>
</table>
| 2. | Composite 2006 ACT score by race for high schools surveyed /  
   $n =$ total students who took ACT .................................................. 34 |
| 3. | Internal consistency reliability for  
   four information seeking skills subscales ........................................ 37 |
| 4. | All adolescents/Information Skills Checklist (ISC)  
   and Tennessee Self-Concept Scale (TSCS) ........................................ 43 |
| 5. | African American adolescents / ISC and TSCS ..................................... 43 |
| 6. | European American adolescents / ISC and TSCS ................................... 43 |
| 7. | Hispanic American adolescents / ISC and TSCS ................................... 45 |
| 8. | Female adolescents / ISC and TSCS .................................................. 45 |
| 9. | Male adolescents / ISC and TSCS ...................................................... 45 |
| 10. | African American female adolescents / ISC and TSCS .......................... 46 |
| 11. | African American male adolescents / ISC and TSCS ............................ 46 |
| 12. | European American female adolescents / ISC and TSCS ....................... 46 |
| 13. | European American male adolescents / ISC and TSCS .......................... 47 |
| 14. | Hispanic American female adolescents / ISC and TSCS ....................... 47 |
| 15. | Hispanic American male adolescents / ISC and TSCS .......................... 47 |
| 16. | All adolescents / ISC and facets of the TSCS .................................... 48 |
| 17. | African American females / ISC and facets of the TSCS ....................... 50 |
18. African American males / ISC and facets of the TSCS ....................... 51
19. European American females / ISC and facets of the TSCS ............... 52
20. European American males / ISC and facets of the TSCS .................. 53
21. Hispanic American females / ISC and facets of the TSCS ............... 54
22. Hispanic American males / ISC and facets of the TSCS ................. 55
23. Major U.S. cities and percentage of student population
    considered low income ..................................................................... 69
LIST OF FIGURES

Table

1. Social patterns: popularity index vs. grade point average by race .......... 25
2. Average of Physical facet on Tennessee Self-Concept Scale (TSCS) by both race and gender group ............................................. 56
3. Average of Personal facet on TSCS by both race and gender group ...... 57
4. Average of Social facet on TSCS by both race and gender group .......... 58
5. Average of Academic/Work facet on TSCS by both race and gender group ................................................................................. 59
6. Average of Moral facet on TSCS by both race and gender group .......... 60
7. Average of Family facet on TSCS by both race and gender group ........ 60
8. Average on Information Skills Checklist by both race and gender group 61
CHAPTER 1
INTRODUCTION

As recently as two generations ago, students with ability, diligence and
dedication to their studies could succeed academically with little more than the
books provided by their teachers and pencils and paper. Children who grew up
in poverty lived with the possibility of being able to someday elevate their
circumstances through a quality public education. The advent of the computer,
however, has placed a greater price tag on obtaining a quality education. While
most schools have some sort of technology available to students, different school
districts have more available than others. Students in poorer areas do not
necessarily have the best and latest technology at their fingertips on a regular
basis. Students who lack access to computers and computer skills may find
themselves at an immediate disadvantage compared to their computer savvy
counterparts. This raises the prospect of developing a country that has an ever
shrinking middle-class, because class divisions will only increase. This prospect
is unsettling in a democracy where equal access to a quality education is a
cornerstone.

“Empowerment is the sense of control a person has over his or her life; for
students whose difficulties in both academic and social settings inhibit traditional
paths to self-esteem, sense of empowerment is vital, yet all too rare” (Larson &
Roberts, 1986, p. 52). Social capital, when one considers its effects on the
individual, is the concept of one’s value being defined by a set of external standards. While the value of a human being is not determined by his or her ability to thrive in academic or social settings, nor by standards that have been in some way established by the status quo, it is apparent that many people value themselves based on these societal mores. Western culture has put an enormously high standard on the ability to buy things. This societal trend did not come because of the computer age, but the computer age has certainly become a part of it. The phenomenon of the knowledge-based economy has been inextricably linked with the computer age. As a result, those people who, for whatever reasons, are not capable of successfully functioning in this type of economy may increasingly find themselves marginalized because of it. Socioeconomic level consistently functions as a predictor of academic achievement (Dossett & Munoz, 2000).

It is imperative that educators gain a richer understanding of the potentially negative effects of an inferior ability to seek information on the future career prospects of students currently enrolled in American schools. New definitions of literacy that include information technologies must be included in the guidance of adolescent students (Daggett, 2003).

Statement of the Problem

This era has been one that put an unprecedented amount of importance on information seeking skills. Unfortunately, this has lead to further disenfranchisement of groups who are not as economically privileged as others.
In recent years, America bore witness to the tragedy that occurs when fellow Americans have inadequate access to reliable information when Hurricane Katrina left its indelible mark on New Orleans. America has always had groups that were more disenfranchised than others. African Americans have been one of these disenfranchised groups since the country’s inception. And, now many Hispanic Americans have joined the ranks of the disenfranchised. A large aspect of being able to successfully function in this era is one’s ability to seek and evaluate information. This makes the study of the correlation between information seeking behavior and self-esteem a compelling one. A great deal of research exists on how adolescents interact with computers socially (pornography, gaming, chatting, etc.); however, little information is available on their ability to process and evaluate information. Further, although there has been extensive research regarding how the digital divide will affect job placement in the future, there is little research available on how this divide affects the self-esteem of the students who are suffering through it now.

Significance of the Study

The enormous amount of research on self-esteem and adolescent behavior led me to believe that there was a great deal of research on the subject of information seeking behavior and self-esteem. Unfortunately, this was not the case. This research was conducted in the attempt to establish data on how self-perceived information seeking skills may correlate with self-esteem in adolescents. Specifically, the goal of the project was to focus on how this
correlation varied by gender and race. It is hoped that this research will ultimately be used to develop policies regarding the development of information seeking skills in disenfranchised groups.

Research Questions

This study explored the correlation between self-perceived information seeking skills and self-esteem in adolescents. Further, the study sought to determine whether this correlation varied according to the gender and race of the examinee. The following questions were addressed:

1. Is there a statistically significant correlation between self-perceived information seeking skills and self-esteem in adolescents?

2. If there is a significant correlation, does the correlation vary by race and gender?

3. If there is a significant correlation by race and gender, what is the direction of the correlation by race and gender group?

4. Which of six self-esteem facets have the most significant correlation to self-perceived information seeking skills?

The impetus for these questions lies in the growing body of data on how lack of information seeking skills negatively affects career decision making. Further, there is a great deal of research surrounding how low self-esteem coincides with various questionable adolescent decisions such as drug use, dropping out of school, and unwanted pregnancy. This study was intended only to investigate the correlation between information seeking skills and self-esteem. No attempt was made to investigate any of the other sociological issues that surround self-esteem.
Methodology

Two instruments were used for this study. One was used to measure self-esteem, and one was used to measure self-perceived information seeking skills. For the self-esteem portion, 10th-grade high school students were given the Tennessee Self-Concept Scale. This instrument was chosen because it is designed for students 12 years of age and over and because it has six critical measures of self-esteem: Physical Self, Moral Self, Personal Self, Family Self, Social Self and Academic/Work Self. Additionally, these six scores can be used to provide a composite score that gives the researcher an overall measure of how the student perceives himself. According to the Mental Measurements Yearbook (2004), the Tennessee Self-Concept Scale, second edition, (TSCS:2) is the most reliable of the self-concept scales (Brown, 2004). Additionally, the same students were given an instrument used to measure self-perceived information seeking skills titled Information Skills Checklist (ISC) (High Plains Regional..., n.d.) For the purpose of this study, some questions have been eliminated or revised. The instrument as it was administered to the students during the pilot study is attached in its entirety (Appendix A).

Terminology

Terms used in this dissertation have the following meanings:

Disenfranchised group: a group of persons who historically have been denied legal, monetary, and/or educational advantages.

Information behavior: “the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking, and information use” (Wilson, 2000, p. 49).
Information literacy: “the ability to access, evaluate, and use information from a variety of sources” (Doyle, 1992, p. 2).

Information seeking ability: the ability to seek and identify valid sources of information for one’s personal use through various types of information media (i.e., face to face, computer-based, and print sources).

Information seeking behavior: “the purposive seeking for information as a consequence of a need to satisfy some goal” (Wilson, 2000, p. 49).

Information seeking skills – the specific skills that one employs to demonstrate one’s information seeking ability. These were the skills that were being self-evaluated on the Information Skills Checklist.

Information use behavior: “the physical and mental acts involved in incorporating the information found into the person’s existing knowledge base” (Wilson, 2000, p. 49).

Knowledge-based economy: an economy which is “directly based on the production, distribution, and use of knowledge and information” (OECD, 1996, p. 7).

“Self-concept refers to what we believe about ourselves” (Tesser, 2000, p. 214).

Self-esteem refers to how people evaluate themselves. Self-concept and self-esteem are inter-related because the concepts people have about themselves determine self-esteem (Tesser, 2000).

Social capital: There are many variant views of what “social capital” means. For the purposes of this paper, we will use its definition that encompasses the “facilitation of effective social interaction.” And, we will further include the use of physical capital and human capital as they relate to this definition (Falk, 2001, p. 316).

Race Defined

One of the most important variables for discussion in this paper is race. Race is by nature a problematic concept because it has both scientific and political nuances that make its discussion challenging. It is an important part of how adolescents and people in general define themselves and are defined by
society and is therefore relevant to this research topic. The three races studied were African American, European American, and Hispanic American. In direct quotes, terms such as “black,” “Caucasian,” and “Latino” remain as originally written.

I acknowledge that while the terms “African American” and “European American” denote race, Hispanic American denotes language. By this I mean that students who listed themselves as “Hispanic” could be genotypically mixed with any percentage of European, African, or North American indigenous groups. This provides for great phenotypical diversity among those who call themselves “Hispanic.” Nonetheless, although their primary ethnic similarity is language, they are typically identified as a race.

Summary

This is an era that has put an unprecedented amount of importance on the ability to utilize, receive, and transfer information as a required skill for the job market. The acquisition of this skill, unfortunately, can be directly tied to socioeconomic level. Students who attend schools in low income areas will not be given the same access to technology as those who attend in middle to high income areas. Because access to technology and information is so often based on income, one can consider information seeking skills a measure of social capital.

There is a wealth of information regarding adolescents and the use of technology and even more regarding adolescents and self-esteem. But there is
very little on how the mastery of information seeking skills correlates with the self-esteem of adolescents. Because of the potential impact of the acquisition and mastery of the information process on higher education and career choice, I thought that it was important to determine whether there was a link between information seeking skills and self-esteem.

Determining if there were a correlation between self-perceived information seeking skills and self-esteem in adolescents and whether it varied by race and gender was the goal of my study. Further, I explored which of the six self-esteem facets had the most significant correlation to self-perceived information seeking skills. To ascertain this information, I used the Tennessee Self-Concept Scale:2 and the Information Skills Checklist.
CHAPTER 2
LITERATURE REVIEW

Introduction

In Western societies, the impact of information literacy on everyday activities is substantial. Information literacy impacts job choices, educational choices, and in many cases, determines upward socioeconomic mobility. The importance of this research comes from the fact that “literacy learning is not an isolated or stand alone activity (Falk, 2001, p. 314).” Instead, information literacy is a crucial part of American life.

While conducting this literature review, I found numerous articles, books, and dissertations related to the study of adolescents and self-esteem. There were several on gender differences and information seeking (Farmer, 1996; Hupfer & Detlor, 2006; Ford et al., 2000), gender differences and self-esteem (Biro et al., 2006; Nolen-Hoeksema & Gurgus, 1994), race differences and information seeking (Spink & Cole, 2001; Beckles, 2001), and race differences and self-esteem (Kohler et al., 2002). But, there was nothing directly related to a correlation between self-esteem and information seeking skills or how race and gender affect outcome of this correlation. The lack of information on this correlation made me look for sources that helped me interpret my results.
Social Capital

The debate on just what social capital is has been debated for decades (Falk & Kilpatrick, 2000, p. 88). Consistently, social capital has been described as a term that is not easily identified. Unlike money or real estate, what is social capital for one person may not be for another, depending on an individual’s circumstances. The model for social capital easily shifts because it is based on an individual’s interaction with his society. Social capital as it relates to the study of information science was discussed in Pasco’s dissertation, Capital and Opportunity (2000). This ethnographic study explored the way two high school age women used measures of social capital to influence their academic achievement and “personal life trajectories.”

Four interactive functions provide social capital: “information exchange, problem identification, behavior regulation, and conflict management” (Hazleton & Kennan, 2000; Widen-Wulff, 2008, p. 347.) The image people project of themselves is based in some part on this view of being able to navigate within these functions of social capital (Falk, 2001, p. 314). Falk’s work focuses on literacy as a measure of social capital but that it should be considered in the larger context of other means of social capital that has the power to transform lives (2001, p. 315). Further, like other forms of capital, “social capital is productive” (Coleman, 1988, p. S98). In “knowledge-based economies,” actively learning to navigate information can lead to the acquisition of social status (Falk & Kilpatrick, 2000, p. 91).
Based on these definitions, I began to consider how information literacy may be one of the most important forms of social capital in what has been called the Information Age. This brought up the problem of defining what information literacy was and how different groups, socioeconomic, racial, gender, age, etc., might define this type of literacy differently from others. For adolescents, the concept of social capital is particularly interesting because it involves so many variables. Adolescent behaviors are linked to the ways that students interact with their teachers, other students, and environments. Those behaviors will have a lasting effect on their lives and goals (Lee & Croninger, 2001, p. 166). Additionally, studies have shown that African Americans have a tendency to base a great deal of their self-esteem on items that some would consider measures of social capital. According to Miller and Kemp, “Black women are nearly twice as likely as white women to say brands (designer labels) reflect who they are” (2005, p. 25). If African American women’s self-esteem had more tied into issues of social capital than other groups; then, it would seem logical that the highest correlation between self-esteem and self-perceived information seeking skills would be found in African American adolescent females.

Information Literacy

In chapter 1, I discussed six separate definitions related to information use, literacy, and skills. An understanding of these terms is relevant to this paper; however, two of those terms, information literacy and information
skills, are of particular importance. One of the instruments used was administered to give students the opportunity to perform a self-evaluation of their own skills. The impact of information literacy on adolescents both academically and in future careers should be kept in mind throughout the reading of this paper.

Information literacy has shifting definitions but the most concise one I found was in the Final Report to the National Forum on Information Literacy. This report defines information literacy as “the ability to access, evaluate, and use information from a variety of sources (Doyle, 1992, p. 2).” These attributes combined make an information literate citizen. Some countries have decided to integrate information literacy into the curriculum for all elementary and secondary schools (Ross et al., 1992, p. 6). At the heart of understanding the importance of information literacy is recognizing that education is globally perceived as having the ability to transform lives. The world is experiencing an “epochal shift” to an age of communication in which the focus of education must be on incorporating information literacy into all phases of the learning process in order to produce a vital workforce (Scott, 2002, pp. 9; 12).

This need to be information literate is not easily understood by adolescents in many cases. They may not equate information skills with socioeconomic mobility or with expanded career opportunities. For these reasons, it is important for educators to begin integrating an understanding of the
information process into the curriculum so that students develop the perception that information literacy is an integral part of their future career choices (Daggett, 2003). On the other hand, students who feel disempowered by academics may never feel comfortable engaging in information processes. This would equate with a number of citizens who may never fully utilize information sources at their disposal.

Self-Esteem and Adolescents

What is the difference between self-concept and self-esteem? The two terms are very closely related but not used synonymously in the context of this dissertation. When referring to self-esteem, I am referring to the way people evaluate themselves and their self-worth. When I refer to self-concept, it is to refer to concepts people have about various facets of themselves. This is the way the Tennessee Self-Concept Scale gives its total self-esteem score, by combining the score for each facet into an overall score. Why study self-esteem? Recent research regarding its study gives mixed results as to whether it is an accurate predictor of outcome for individuals (Owens & Stryker, 2001, p. 2).

Self-esteem research as it relates to adolescents is problematic because there are two distinct schools of thought. One school of thought believes that adolescent self-esteem determines life success level and the other does not. The study of adolescent self-esteem necessitates that we take a multidimensional view of what is involved in its development. Issues of
parental and peer relationships, economic standing, gender, and race are all part of the development in any human being, but especially adolescents (Demo, 2001). Some studies have shown a correlation between good grades and high self-esteem while some showed no correlation whatsoever. Socioeconomic status seems to be the more accurate measure of academic achievement in students (Dossett & Munoz, 2000).

There is research that suggests that self-esteem is more of a consequence of life’s circumstances than their cause (Trzesniewski et al., 2006, p. 381). On the other hand, there is overwhelming evidence that points to the fact that low self-esteem in adolescence can be a precursor to problems in adulthood. A longitudinal study performed by Trzesniewski et al. over a 21-year span (ages 5 to 26) in New Zealand demonstrated that those who had low self-esteem in adolescence had an increased amount of mental health issues, increased problems with physical health, and increased criminal convictions as adults when compared with their high self-esteem counterparts (Trzesniewski et al., 2006, p. 384). Like this study, Boden et al. found in their longitudinal study on adolescent self-esteem that respondents with low self-esteem at 15 had higher rates of mental health problems and substance abuse problems as adults than those respondents with higher self-esteem (2008). In a related study, Ciarrochi et al. also found that low self-esteem seem to be an accurate predictor of depression (2007). This finding is in line with several other surveys that show that while self-esteem is a good
indicator of overall happiness it is not necessarily a good indicator of academic performance (Baumeister et al., 2005).

Information Seeking and Adolescents

The information children seek and the way that they seek it is directly related to their achievement goals (Butler, 1999, p. 146). As children become adolescents, their perception of the usefulness of information will become increasingly affected by their social circumstance. One particular study revealed that there are two dimensions of computer based information seeking that have an impact on user perception-benefits and frustration (Dalrymple & Zweizig, 1992, p. 198.) These two dimensions, though, can be applied to all aspects of information seeking. Once students realize the potential benefits of viable information, the way they perceive that information and its worth will be directly related to whether they experience dissatisfaction with its use.

Ultimately, research on adolescent information seeking should investigate how their present patterns of information seeking will impact their futures and career choices. There have been some compelling studies that highlight how information seeking impacts career decisions in adolescents. Using Dervin’s Sense-Making theory and Kuhlthau’s Information-Seeking process theory, Julien designed a study that showed the ways that information providers impacted adolescents in this most crucial aspect of their information behavior (2004). This
study determined that career seeking information was one of the most crucial aspects of adolescent information behavior.

According to Levine and Hoffner, adolescents have five major sources for work socialization: parents, schools, part-time jobs, friends, and the media. Once again the media and friends are strong influences and in the case of the media, adolescents can pick up inaccuracies regarding the world of work (2006). Once again, the issue of socioeconomics comes into the equation, because career aspirations have so much to do with parent modeling. The focus of my study was an urban school district. Urban schools should be careful to demonstrate to students that there is a strong link between what is being learned in the classroom and what they will need for careers in the future (Alliman-Brissett et al., 2004).

In a Canadian study, 40% of adolescents surveyed felt that they were not sure of the best avenues to pursue for information regarding career decisions (Julien, 1999). The respondents noted that finding information for careers seemed to be particularly “complex” and the students perceived this complexity as a major barrier” (p. 42).

Information Seeking and Self-Esteem

The way that information seeking relates to self-esteem can be found in the study conducted by Bier et al. on the impact of learning to use the internet on individuals. “It made me feel good just learning, knowing that I could learn . . . when I started getting into different sections of the Internet I
was amazed at how much information was out there . . . “ Bier, 1997, p. 112). The participants in this study felt that they were taking control of their lives by mastering this technology.

In my personal observations, I noticed that women, particularly African American women, who were adept at information tasks, carried themselves with more self-confidence than those who did not. This corresponds to the findings on self-efficacy that belief in one’s ability to succeed is directly tied to one’s success in academia (Pajares, 1996; Sharma & Mavi, 2001). Further, belief in one’s competence is directly related to self-concept (Pajares, 1996, p. 561).

Information Seeking and Gender

I have been a reference librarian for several years, and in that time I have made an observation that most two-year-olds have ascertained, “Boys and girls are different.” This difference stood out, interestingly enough, during any given reference interview. Women usually assumed that something was wrong with them and their actions if they could not find the information they wanted, while men usually assumed that something was wrong with the library or the system itself. On the other hand, the women who did understand the information seeking process were leaders among their peers. They took charge of scheduling study groups and helped people with all aspects of the information seeking process. Men who understood the process didn’t behave in this way. Generally, they took care of their
business and got out. As a woman, I have to tread lightly when making statements such as these, but nonetheless, that was overwhelmingly the case. The more I noticed these behaviors, however, the more it intrigued me. I took into consideration that I might be experiencing my own interviewer bias in this matter and began asking my male counterparts in reference service what their experiences had been, and they echoed my own.

Ford et al. identified cognitive differences based on gender. They reported on field dependence and field independence differences and how these affect information seeking. Their report said that “females were at a more advanced level of information seeking than males at the pre-search interview” (2000, p. 20).

Hupfer and Detlor stated that there have been very few research projects on gender and web information seeking “…frameworks that investigate gender in terms of individual psychological differences in self-concept will become increasingly important (Hupfer & Detlor, p. 1105).” One wonders how much of that has to do with gender distinctions. It has also been noted by Nahl and Harada that there is very little information available on the differences in manipulating communication media such as electronic searching (2004, p. 123).

There are distinct gender differences in the way that male adolescents approach information retrieval versus the way female adolescents approach information retrieval. Ford et al. verified that although females had higher
domain language knowledge than their male counterparts they were still less satisfied with their progress (2000, p. 20). Adolescent women “tend to underestimate themselves and their power (Farmer, 1996, p.20).” According to Farmer, there can be an “interdependent” relationship between the acquisition of information skills and the improvement of self-esteem (1996, p. 13). These revelations verified my experiences as a reference librarian. Why would women be so self-deprecating when they couldn’t find what they needed as compared to their male counterparts? What other bodies of research might this be linked to? The most obvious link, for me, was the issue of self-esteem.

Gender and Self-Esteem

The literature available on gender differences and adolescent self-esteem was overwhelming and well documented. One of the most cited studies on this area was by Nolen-Hoeksema and Girdus, “The emergence of gender differences in depression during adolescence (1994).” This study alone has been cited 493 times. Other studies on self-esteem in adolescents consistently demonstrate that males score higher than females (Forney et al., 2005, p. 215). Ironically, this finding does not hold up for younger students who have been tested. Younger students have a tendency to score similarly across gender lines (Kohr et al., 1988). Exploring the literature in this area showed me a clear pattern that further explained my observations at the reference desk. Women link their successes and failures with their
own limitations while men link their successes with their own efforts and their failures were the responsibilities of others (Farmer, 1996, p. 6).

Gender differences surrounding self-esteem are not an alarming occurrence. The fact is that one’s perception of one’s self is tied to how society perceives him/her. Women should have lower self-esteem because they have lower access to resources and may feel more constrained by societal pressures (Statham & Rhodes, 2001). The fact that there were so many studies lead me to realize that this is an incredibly important body of literature and that some study that demonstrated a correlation between gender and racial differences might be available.

Race and Self-Esteem

An important component to anyone’s identity is that of race. As adolescents begin to form their social networks and discover how they will figure into society at large, this factor plays an important role. The study of race and self-esteem is several decades old. As the American immigrant population changes and America has increasing numbers of ethnic members of color, students are faced with new definitions of what it means to be American. This circumstance will make the study of race and self-esteem more vital in coming years as educators try to serve an increasingly diverse population. “…race explains nothing, but it helps us understand everything” (Jackson & Lassiter, p. 245).
Identification with race falls into the realm of group-esteem. An important component in the development of identity is that of group-esteem. Group-esteem is the way in which the individual esteems the group to which he belongs. In a three-year longitudinal study conducted by French et al. comparing group-esteem levels of African American, Latino American, and European American students, it was found that at the beginning of the study, European Americans had the highest group-esteem levels. It was assumed that this was due in large part to the lower class status assigned to groups of color (2006). But, follow-up studies years later with these same students presented interesting results. The following quote refers to the African American participants in the study.

…over the next two years, group-esteem increases dramatically, indicating that they may be abandoning the social mobility strategy and engaging in a social creativity strategy in which they are reassessing the standards by which their group is judged and rejecting their validity. (French et al., 2006, p. 9)

These results further confirm what was found in an exhaustive study conducted in Pennsylvania public schools over the course of several years. It was discovered that on average, European American students scored higher in self-esteem in fifth grade than African American students, but by the time those students reached eleventh grade, the reverse was the case (Kohr, 1988). These studies are consistent with other studies that concur that African American adolescent students score higher in the realm of self-esteem than their European American counterparts, (Richman et al., 1985).
According to Birndorf et al. in a longitudinal study comparing race and gender, it was found that while African American adolescent females exhibit higher self-esteem on average than European American females, Hispanic American females exhibited higher levels of self-esteem than European American females, as well (2005). This contradicts some previous findings but may be due to the increasing numbers of Hispanic Americans in the United States.

One of the most comprehensive studies on race and self-esteem in adolescent females was performed by Biro et al. concurrently in Cincinnati, OH, Richmond, CA, and Washington, DC (2006). In their comprehensive survey of nearly 2400 students who were recruited for this study at age 9 and tracked through age 22, Biro et al. found that global self-worth was consistently higher overall in African American adolescent females than in their European American counterparts (2006, p. 503). Another study was released on working class African American women ages 19 to 44 in an urban area. This study demonstrated that these women, in spite of being what some may consider disenfranchised, scored on a self-esteem instrument at an average level consistent with the general public (Kohler et al., 2002). This phenomenon of African American females consistently testing higher than what might have previously been expected may be due to the fact that their labor has been key to African American economic survival
since times of slavery, and their labor was necessitated during slavery (Buckley & Carter, 2005, pp. 648-649).

Information Seeking and Race

One of the more interesting studies that was based on a specific racial group, in this case African Americans, was one conducted by Spink and Cole in Dallas, Texas (Spink & Cole, 2001). This study revealed that these families focused on “real life interaction channels” as an important source of information (2001, p. 51). A part of this phenomenon is largely due to African Americans, as well as other groups, feeling the need to have communications channels that are not controlled by the dominant culture (Beckles, 2001, p. 312).

A study done on African American inner-city gatekeepers and their library use also revealed non-use of online resources that were available at their public library, including the Internet (Agada, 2000). One recent study done in the aftermath of Hurricane Katrina suggests that a principal reason that African Americans rely on social networks has to do with learned mistrust of institutions (Spence et al., 2007). For this reason, it is important that information providers take this into account when there are crisis situations.

From the beginning of information research, researchers have been concerned with the sociological aspects of how different socioeconomic groups search for information (Wilson, 2000, p. 50). An interesting aspect of
researching what some may consider marginalized socioeconomic groups is to explore the different means that they use not only to find information but also to define what is meant by various terms that are related to academic achievement for these groups (Merkel, 2002).

**Academic Achievement and Race**

As a reference librarian, I have often noticed a pronounced resistance to the acquiring of information seeking strategies on the part of all ethnic groups, but especially African American males. This behavior, though disconcerting, was explained in the considerable amount of literature available on the challenge of academic achievement and African Americans. Both social and economic reasons are given to explain this apparent nonchalant attitude towards information seeking. While there is an increasing amount of literature available on Hispanic Americans in the education process, there was not the corpus available on this group like there was on African Americans. From a historical perspective, there has not been a dedication to the study of how these students fare in academia. Nonetheless, I have included them in my research in an effort to add to the research that is available on Hispanic Americans.

Healthy racial identity is just one of the factors that helps adolescents, especially adolescents of color, make intelligent choices and foster higher levels of self-esteem (Rowley et al., 2006, p. 79.) High self-esteem seems to correlate with group acceptance at this age (Swenson & Prelow, 2005). For African Americans and Hispanic Americans, there is an inverse correlation between
grade point average and number of friends (i.e. the lower one's grade point average the more friends one has) (Viadero, 2005). Because academic prowess is considered by many adolescents of color as “acting white,” group acceptance is based on behaving contrary to this model.

![Social Patterns](image)

*Figure 1. Social patterns: popularity index vs. grade point average by race (Viadero, 2005, p. 14).*

This phenomenon could in large part be due to the variety of “disincentives” surrounding education for African Americans and males particularly (Levitt & Dubner, 2005, p. 160). A major social reason is quite clear to those who have spent time in or around the African American community – peer pressure. Literature regarding ways that African American students discourage one another is abundant. African American students who excel in academics are often labeled as “sell-outs” and made to feel like social outcasts (Austin-Smith & Fryer, 2003). A phenomenon that exists in schools all over the country is the case of African American students feeling that excelling academically is proof that a student has adopted “acting white.” For some, this is a signal that a student is not identifying with his own culture. To
demean another student in this way does not necessarily signal that the student is putting down education but that he is putting down the dominant culture of which the school system is a part (Hopkinson & Moore, 2006, p. 207). One of the first articles about this area is “Black students’ school success: Coping with the ‘burden of acting white’” by Fordham and Ogbu (1986).

For many African American male students, the concept of self-protection is the primary reason behind disengaging from the information process. The information process is bound with school which in many cases is a place of defeat. There are several reasons why this condition might exist, not the least of which being the perception of many African American intellectual males in the media as sellouts. Many African American youth see excelling academically as “acting white” and feel that it undermines their legitimacy as African Americans (Hopkinson & Moore, 2006, p. 207). If, for whatever reason, many African American adolescent males have decided that to achieve academically will disassociate them from their peers, how will this affect them in the future? One of the surest measures of self-esteem in adolescents is group esteem. Encouraging a strong sense of ethnic identity improves development by lowering both depression and aggression (McMahon & Watts, 2002, p. 411). But, what can be done to encourage this group to also believe that their academic development should also figure into this equation?
In some cases, failure to compete academically is a defense mechanism. It’s safer for the psyche to devalue school (Tatum, 2005, p. 12). The emphasis on athleticism over academics has spawned a movement among African American males to disengage from the classroom as much as possible. “Black boys,...,have been socialized to believe that physical strength and stamina are all that really matter. (Hooks, 2004, p. 34).”

The invisible wall that exists for many African Americans, regardless of success (Fordham and Ogbu, 1986, p. 179) results in African Americans lacking the confidence to compete in purviews that are considered “white.” It has been posited that another reason some groups devalue academic achievement is that they see the futility in trying to excel in a culture that is fraught with inequities (Campbell, Pungello, & Miller-Johnson, 2002, p. 280.) “The catch is that even when black men reach the same academic level as white men, their incomes stay several steps behind. Thus among men with four years of college, blacks still earn only $798 for each $1,000 going to whites in that educational stratum” (Hacker, 1992, p. 96). These data are based on the 1990 census.

This economic disparity has not been the case for African American women who make “between $925 and $1,002 for every $1,000 earned by white women” (Hacker, 1992, p. 96). So, while the payoff for academic success may seem more clear for African American women, this is not the case for African American men. This cycle may be repeating itself in the Hispanic American community, as well. The statistics for their college educated population are also
disturbing. “Latinos with a college degree averaged $885 [a week] (14% less than non-Hispanics who had completed college)” (Employment and Income, 2005). This comes to approximately $860 college educated Hispanic Americans earned per week for every $1,000 non-Hispanic college educated European Americans earned per week.

But, it is important to go beyond this perceived burden and look at other factors that influence high achievement. It has been shown that there are many cases where the school itself plays a role in whether students feel burdened by peer pressure (Tyson & Darity, 2005). Schools that are incapable of providing the best in technological advances for whatever reason are more likely to have students who will not be as well prepared for an information-based economy. Unfortunately, the schools that cannot afford to provide this technology are more likely to be found in poor or urban areas with students who are already suffering from socioeconomic disadvantages. For example, upon investigation of per pupil spending in the Chicago area, it becomes quite clear that per pupil school spending heavily favors students in predominantly white and “other” neighborhoods. In Highland Park and Deerfield High School, per pupil spending averages $17,291. Their student population is 90% European American and “other” and 10% African American and Hispanic American. On the other hand, in downtown Chicago, per pupil spending averages $8,482. Their student population is 13% European American and “other” and 87% African American and Hispanic American. When one considers
that the Highland/Deerfield population is 8% low income and the Chicago population is 85% low income, it is clear that these students don’t get equal opportunities in or out of the classroom (Kozol, 2005, p. 321).

Therefore, if it is the goal of the public school system to provide equal opportunities to all students, this lack of access to technology seems to mean that this goal cannot be realized, at least not in these areas (USGAO, 1995, p. 20).

The reality of the underfunding of the urban school system has been documented by several writers, one of the most notable of which is Jonathon Kozol. In his text, Savage Inequalities, he points to how a lack of funding to certain schools creates what can only be termed an “unequal contest” between those students who attend well funded schools and those who do not (1991, p. 180). “The consequences of unequal education have a terrible finality” (1991, p. 180). Students who do not have equal educational opportunities are not prepared to compete once they enter an economy such as one in the west that is based on information. The inherent problem with unequal socioeconomic level impacting education has been studied for decades and is an important part of the literature regarding education (Brewer & Haslum, 1986).

One solution to this problem is for school districts to take an active role in supplying students with the best possible access to technology and making said technology an integrated part of their lives. The Maine laptop program provides every 7th grade student in the state of Maine with a laptop. This initiative has
shown measurable results of how early, consistent access to technology can positively impact the academic careers of students (O’Hanlon, 2007). After this program was implemented, students’ writing scores went up after only one year (Peckham, 2008, p. 75). Students who utilized their laptops in all phases of the writing process had the highest scaled score in writing while students who did not utilize the laptop had the lowest scaled scores (Peckham, 2008, p. 76). Studies such as this one are a clear indicator of the kind of influence access to technology can have on the educational attainment of adolescent students.

As there are changes in access to opportunities, there will be changes in African American behavior (Ogbu, 1986, p. 202). Ironically, in a recent study of adolescent students, one of the factors that became an indicator for grades was “hope”. In fact, hope was a more accurate predictor for grades than was self-esteem (Ciarrochi et al., 2007).

Summary

The purpose of this review was to determine if there are any preexisting studies linking the correlation between information seeking skills and self-esteem and whether this correlation varies according to race and gender. While there is a proliferation of information on the burden on minority students who see their academic success as acculturation and therefore as selling out their race, there may need to be greater emphasis on the importance of information seeking for and methods of teaching the importance of information seeking.
The areas studied for this literature review include several areas that were defined in chapter 1 such as social capital, information literacy, and self-esteem. In this literature review I also included sources that discussed how race and gender impacted the areas of self-esteem, information seeking and academic achievement.

Four major findings stand out in the literature reviewed in this chapter:

1. On average, the self-esteem of adolescent females is lower than that of adolescent males.
2. Higher grades for European American adolescents usually equates with more friends while the opposite is the case for African American and Hispanic American adolescents.
3. Personal friendships and group acceptance are critical to the self-esteem of adolescents.
4. Peer pressure, especially in the African American community, can become a disincentive for academic achievement.
CHAPTER 3

METHODOLOGY

Introduction

My study examined the correlation between self-esteem and information seeking behavior and whether race and gender were related to this correlation. The method I used to gather the data is two quantitative survey instruments. This chapter describes sampling, instruments, data collection and analysis, and methodological issues.

Sampling

More than 200 students from three racially diverse public high schools volunteered to participate in the study. The sampling method I used was purposive, because I wanted equal representation of each race-gender group for my research. However, I did not feel comfortable turning down respondents once I had reached my quota in a particular group and had to allow several respondents to participate even though using their surveys was not going to be possible without my data sets being unbalanced. Testing of students in this age group can be problematic, because they may have developed resistance to educators at this point in their high school careers. One of the ways that I recruited students to participate was by providing candy in the room where the respondents were filling out the questionnaires. Another way I encouraged
students to participate was to do a random drawing for cash prizes for no more than $20 during survey times.

I have included information about the three high schools surveyed in Table 1. These schools are located in a large metropolitan area in Oklahoma. To get a clear idea of how these schools vary, I have included a table below that highlights some of the socioeconomic, racial demographic and academic data on the three schools. Table 2 discloses the overall scores for each school aggregated by race for the year 2006.

Table 1

<table>
<thead>
<tr>
<th>High Schools Surveyed</th>
<th>% of African American students</th>
<th>% of Hispanic American students</th>
<th>% of European American students</th>
<th>% of students on free/reduced lunch</th>
<th>ACT composite score</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School A</td>
<td>97</td>
<td>1</td>
<td>1</td>
<td>98.8</td>
<td>15.1</td>
</tr>
<tr>
<td>High School B</td>
<td>73</td>
<td>9</td>
<td>12</td>
<td>68.8</td>
<td>19.6</td>
</tr>
<tr>
<td>High School C</td>
<td>26</td>
<td>33</td>
<td>26</td>
<td>82.8</td>
<td>17.1</td>
</tr>
</tbody>
</table>

Table 2

Composite 2006 ACT Score by Race for High Schools Surveyed / N = Total Students Who Took ACT

<table>
<thead>
<tr>
<th>High school</th>
<th>African American Students (AAS)</th>
<th>N for (AAS)</th>
<th>Hispanic American Students (HAS)</th>
<th>N for (HAS)</th>
<th>European American Students (EAS)</th>
<th>N for (EAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School A</td>
<td>15.1</td>
<td>125</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>High School B</td>
<td>18.2</td>
<td>272</td>
<td>21.1</td>
<td>35</td>
<td>21.7</td>
<td>68</td>
</tr>
<tr>
<td>High School C</td>
<td>16.2</td>
<td>66</td>
<td>16.0</td>
<td>70</td>
<td>19.9</td>
<td>46</td>
</tr>
</tbody>
</table>

(B.L. Schafstall, personal communication, November 12, 2008)

Instruments for this study

I used two instruments for this study. One was used to measure self-esteem, and one was used to measure self-perceived information seeking skills. For the self-esteem portion, the Tennessee Self-Concept Scale, second edition, will be used in its entirety. I gave the same students an instrument used to measure self-perceived information seeking skills titled “Information Skills Checklist.” It is available from the High Plains Regional Technology in Education Consortium webpage.

Tennessee Self-Concept Scale

I chose this instrument because it is designed for students 12 years of age and over and because it has six separate measures of self-esteem. The six self-concept scales that are used in TSCS:2 are Physical (PHY), Moral (MOR), Personal (PER), Family (FAM), Social (SOC), and Academic/Work (ACA). All six of these measurements will be calculated for each examinee. The total score is calculated from using these measures. The total is “the single most important
score on the TSCS:2.” (Fitts & Warren, 1996, p. 21). From this measurement, the test giver can gather the test taker’s overall self-concept and self-esteem.

The Physical (PHY) self-concept scale exhibits how an individual feels about his or her physical appearance. This score shows how an individual views his “body, state of health, physical appearance, skills, and sexuality (Fitts & Warren, 1996, p. 23).” While this measurement can be used throughout the lifespan, it is especially important during adolescence. It has been shown that individuals with low measures in this area, especially in combination with Personal and Social are at risk for certain disorders such as eating disorders and depression (Fitts & Warren, 1996).

The Moral (MOR) self-concept measures how an individual judges himself or herself as a good person. Low scores may indicate that the student may feel incapable of self-governance (Fitts & Warren, 1996, p. 23). Personal (PER) is an accurate measure of “overall personality integration” and sense of self-worth (Fitts & Warren, 1996, p. 23).” The Family (FAM) measurement can be used to gauge how the student perceives himself as a part of his family unit (Fitts & Warren, 1996, p. 23). The Social (SOC) measurement is also a measure of how the student perceives himself in relation to other people. This concept will be related to how many friends the subject feels he has (Fitts & Warren, 1996, p. 24).” Academic/Work (ACA) self-concept is related not only to how proficient a student one is but also to how proficient one perceives himself to be. High scores will equate with confidence when approaching new tasks while low scores
may equal disappointments in past academically related undertakings (Fitts & Warren, 1996, p. 24).

The multifaceted nature of this test is the principle reason to use this instrument. Self-esteem is a complex concept and is based on how each person perceives a range of aspects about him or herself. For this reason, the various measures of self-evaluation are much more “meaningful” when measuring self-concept (Bandura, 1986, p. 356).

This instrument was first released in 1964 and is one of the first multidimensional instruments of self-esteem. It remains one of the most used instruments of self-esteem because of its comparatively high validity for this type of instrument. The TSCS:2 has also been chosen because it is cited by the Mental Measurements Yearbook as a self-concept test that is well used in correlative studies with a second instrument (Brown, 2004).

This instrument cannot be included in the dissertation due to copyright restrictions.

Information Skills Checklist

The same students were given an instrument used to measure self-perceived information seeking skills titled Information Skills Checklist (see Appendix A). It is available from the High Plains Regional Technology in Education Consortium webpage. The possible answers for this instrument have been revised from “unfamiliar, familiar, confident” to “never, sometimes, usually, always.” The questions are brief and set up in a Likert scale format (HPRTEC, n.d.)
To assess the internal consistency of this instrument, I used Cronbach’s Alpha. Cronbach’s Alpha is ideal for an instrument that uses a Likert-scale (Huck, 2000, p. 92). The Cronbach’s Alpha score for the overall exam was .921. Alpha needs to be “greater than .70 […] to provide good support for internal consistency reliability (Morgan et al., 2004, p. 122).” These scores demonstrate high internal consistency. Further, the questions on this exam were broken down into four distinct categories: writing, technology, library, and web.

Each of these individual subscales had adequate internal reliability. See Table 3 for detailed information. The questions that represented these areas are as follows:

Writing: Questions 1, 13, 17, 18, 19, and 20  
Technology: Questions 7, 14, and 15  
Library: Questions 2, 3, 4, 5, 6, and 9  
Web: 8, 10, 11, 12, and 16

Table 3

<table>
<thead>
<tr>
<th>Scale</th>
<th>Alpha</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing</td>
<td>.821</td>
<td>6</td>
</tr>
<tr>
<td>Technology</td>
<td>.759</td>
<td>3</td>
</tr>
<tr>
<td>Library</td>
<td>.833</td>
<td>6</td>
</tr>
<tr>
<td>Web</td>
<td>.715</td>
<td>5</td>
</tr>
</tbody>
</table>

Data Collection

Before administering the instrument, I explained to the students the types of instruments that they would receive and how the information will be used.
They were told to not put their names on any portion of the test so that I can assure them of their confidentiality. The only students who received this information were those who have taken home parent information letters and submitted signed research consent forms (Appendices B and C). The students were free to ask me whatever questions they may have about the instruments. I wanted to promote openness with my test takers so that they would give me the most honest responses they can. I also debriefed school personnel after these sessions with their students.

Data Analysis

I used Pearson product-moment correlation (Pearson r) to analyze whether the difference in scores on the two instruments was statistically significant for adolescents in general and whether the correlation was statistically significant when I took into account race and gender. I chose Pearson r because it can be used to determine either negative or positive correlations between two scores.

Methodological Issues

One of the most important issues for this and like studies is that of respondent validity. Other issues related to the reliability of the instruments and their validity are addressed, as well.

Instrument Validity and Reliability

The validity of the Tennessee Self-Concept Scale has been established by its use in well over 1,000 dissertation studies which purported to use it as an
instrument to measure self-concept. The reliability of the Tennessee Self-Concept Scale is reported by the *Mental Measurements Yearbook*. “Reliability has been estimated using Cronbach's Alpha with internal consistencies ranging from a low of .73 on the Social Self-Concept scale to a high of .93 on Total Self-Concept. Test-retest reliability (over a period of 1 to 2 weeks) for both the Adult and Child Forms are slightly lower, with ranges from .47 to .82 for the Adult form, and .55 to .83 on the Child form (Brown, 2002).” Further, TSCS:2 has shown discriminant validity.

The Information Skills Checklist was developed by the High Plains Regional Technology in Education Consortium. This organization develops tests to assess skills in coordination with the International Society for Technology in Education. This test is available electronically and can be given electronically or modified for use by test givers. According to HPRTEC, there is no validity or reliability information available for this instrument available from them; however, I assessed the internal consistency of this instrument using Cronbach’s alpha. The Cronbach’s alpha score for the overall exam was .921 which is considered a high measure of internal consistency.

Respondent Validity and Reliability

Several threats to the reliability of the responses were a concern for the data collected from these two instruments. Since all of the students who participated were volunteers, there are certain assumptions to be made about their characters. Students who would volunteer to take what is perceived by
most of them as a test probably exhibit some form of academic competitiveness which may lead to inflating their own perception of their information seeking skills or their self-esteem. These inflations might be seen by such students as socially desirable traits and therefore they would want for outsiders, such as myself to perceive them that way. This type of self-inflated response bias of a student’s self-perception of abilities has been documented in other studies (Arnold & Feldman, 1981, p. 384).

Another problem was the difficulty of students either not completing the exam or marking every response the same. There were several exams that I could not use because some respondents left the sections blank on race and/or gender. Further, there were several students who marked more than one race or even asked me about how they should mark race. Once again, the issue of accurate responses comes into question with instruments such as these. In an effort to preserve the anonymity of the minors, I left no way for the instruments to be traced back to the individuals. This meant that I could not retest the same person and know if he/she responded in the same way each time. This left it difficult to know the accuracy of the responses.

A threat to the validity of these instruments was that they were based on self-reporting, which left them susceptible to certain types of respondent biases. For the Tennessee Self-Concept Scale, this was appropriate, but for the Information Skills Checklist, it meant that self-perceived abilities may have differed considerably from actual abilities.
Summary

For this study, I was interested in examining if there were a correlation between self-esteem and self-perceived information seeking skills. To carry out this study I employed the use of two instruments: the Tennessee Self-Concept Scale, Second edition (TSCS:2) and the Information Skills Checklist. The TSCS:2 has six distinct facets that are tested for: Physical, Moral, Academic/Work, Family, Social, and Personal. The Tennessee Self-Concept Scale is a standard test for measuring self-concept and the use of this test in its entirety is considered one of the best ways to measure self-esteem because of its multifaceted nature. The overall Cronbach’s Alpha reliability score for this instrument is .93.

This Information Skills Checklist was used in part from the HPRTEC website and then I modified some of the language to make it more understandable for adolescent respondents. All six of the TSCS:2 measurements, the TSCS:2 total score, and the score on the ISC will be calculated for each respondent. The overall Cronbach's Alpha reliability score for this instrument is .921.

Access to students in the target age range was a major concern, because I do not work with a school system. The students surveyed for this study were 10th-graders at three high schools in a Midwestern city with a population of more than 500,000 people. The percentage of students eligible for the free or reduced
lunch program was used as an indicator of similarity in socioeconomic level of schools used. The percentage for the schools ranged from 68% - 99.
CHAPTER 4

RESULTS

The major question that I wanted to pursue in this study was whether there was a correlation between self-perceived information seeking skills and self-esteem in adolescents, and whether that correlation varied according to race and gender. The groups studied were African American, European American, and Hispanic American 10th-graders of both genders. Tenth-grade students were the target group for the survey. This chapter describes results for each of the four research questions.

Self-Perceived Information Seeking Skills and Self-Esteem

The result for the first research question, “Is there a significant correlation between self-perceived information seeking skills and self-esteem in adolescents?” is shown in Table 4. The Pearson r Correlation based on the cumulative scores of all members of the sample group on the Tennessee Self-Concept Scale, second edition, (TSCS:2) and the Information Skills Checklist (ISC) was statistically significant at the .01 level.

Table 4

<table>
<thead>
<tr>
<th>All Adolescents / ISC and TSCS</th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISC</td>
<td>Pearson correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>ISC</td>
<td>.329**</td>
</tr>
<tr>
<td></td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>138</td>
</tr>
</tbody>
</table>

**p < .01, two-tailed.
Variations by Race and Gender

The result for the second research question, “If there is a significant correlation, does the correlation vary by race and gender?” revealed that when these tests were run according to racial identification, there was a variation in correlation that was in fact greater than the variation in correlation for gender. For race, the variation in correlation was .168. African American adolescents (Table 5) did not show statistical significance; however, significance is demonstrated at .05 and for this group it was .053. European Americans and Hispanic Americans showed higher correlations (Tables 6 and 7) with the largest correlation score of the groups being for Hispanic Americans (Table 7).

Table 5

<table>
<thead>
<tr>
<th></th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ISC</strong></td>
<td>Pearson correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td><strong>African American Adolescents / ISC and TSCS</strong></td>
<td>.275</td>
</tr>
</tbody>
</table>

Table 6

<table>
<thead>
<tr>
<th></th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ISC</strong></td>
<td>Pearson correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td><strong>European American Adolescents / ISC and TSCS</strong></td>
<td>.351*</td>
</tr>
</tbody>
</table>

*p < .05, two-tailed.
Both genders had positive correlations with a variation of only .005. This revealed that these scores varied only slightly according to gender but were statistically significant at the .01 level for both females (Table 8) and males (Table 9).

Another important factor of question 2 was whether there would be a correlation in the TSCS:2 and the ISC for groups that were divided by both race
and gender and if that correlation would vary. Specifically, the final analysis would survey the following groups: African American females (Table 10), African American males (Table 11), European American females (Table 12), European American males (Table 13), Hispanic American females (Table 14), and Hispanic American males (Table 15). Of the six groups, I found that only two demonstrated statistical significance between the overall TSCS:2 score and the ISC score, Hispanic American females (Table 14) and Hispanic American males (Table 15). The statistics revealed that the highest correlation was among Hispanic American males whose correlation score was .509* (Table 15).

Table 10

<table>
<thead>
<tr>
<th></th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISC</td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.374</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.055</td>
</tr>
<tr>
<td>N</td>
<td>27</td>
</tr>
</tbody>
</table>

Table 11

<table>
<thead>
<tr>
<th></th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISC</td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.149</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.496</td>
</tr>
<tr>
<td>N</td>
<td>23</td>
</tr>
</tbody>
</table>

Table 12

<table>
<thead>
<tr>
<th></th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISC</td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.280</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.207</td>
</tr>
<tr>
<td>N</td>
<td>22</td>
</tr>
</tbody>
</table>
Table 13

<table>
<thead>
<tr>
<th>European American Male Adolescents / ISC and TSCS</th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISC Pearson correlation</td>
<td>.398</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.082</td>
</tr>
<tr>
<td>N</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 14

<table>
<thead>
<tr>
<th>Hispanic American Female Adolescents / ISC and TSCS</th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISC Pearson correlation</td>
<td>.424*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.039</td>
</tr>
<tr>
<td>N</td>
<td>24</td>
</tr>
</tbody>
</table>

* *p < .05, two-tailed.

Table 15

<table>
<thead>
<tr>
<th>Hispanic American Male Adolescents / ISC and TSCS</th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISC Pearson correlation</td>
<td>.509*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.016</td>
</tr>
<tr>
<td>N</td>
<td>22</td>
</tr>
</tbody>
</table>

* *p < .05, two-tailed.

The answer to the third question, “If there is a significant correlation by race and gender, what is the direction of the correlation by race and gender group?” was that all groups that had a statistically significant correlation had a positive correlation. Additionally, within the individual race-gender groups, the Hispanic males and European males both showed more correlation between self-perceived information seeking skills and self-esteem than their female counterparts of the same race. This was not the case, however, with African
American adolescents whose females showed more correlation than the African American males tested.

Self-Esteem Facets and Information Seeking Skills

To arrive at results for the fourth question, “Which of the six self-esteem facets have the most significant correlation to self-perceived information seeking skills?,” I did a Pearson r Correlation for each facet of the TSCS:2 (Academic/Work, Family, Moral, Personal, Physical, and Academic/Work) and the ISC. This revealed that overall, there was a statistically significant relationship between ISC and each facet of the TSCS:2, with the exception of “Family (Table 16).”

Table 16

<table>
<thead>
<tr>
<th>All Adolescents / ISC and Facets of the TSCS</th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic/Work</strong></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.484**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>138</td>
</tr>
<tr>
<td><strong>Family</strong></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.065</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.446</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>138</td>
</tr>
<tr>
<td><strong>Moral</strong></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.184*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.031</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>138</td>
</tr>
<tr>
<td><strong>Personal</strong></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.254**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.003</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>138</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.203*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.017</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>138</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.325**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>138</td>
</tr>
</tbody>
</table>

*p < .05, two-tailed. **p < .01, two-tailed.
Once all of these variables were taken into consideration for each group, it was found that each one, with the exception of African American males, showed statistical significance between the Academic/Work score and the ISC score. African American males were the only group who had no evidence of statistical significance between the ISC score and any of the self-concept facets. The results for African American males are in Table 18. African American females, European American females, and European American males demonstrated that only the Academic/Work score and the ISC score showed a statistically significant correlation. Further, Tables 17, 19, and 20, which represent the results for African American females, European American females, and European American males, respectively, the results from a statistical standpoint are quite similar, with only a .103 difference between the lowest and highest correlative score of these three groups.

African American females (Table 17) and both Hispanic American groups (Tables 21 and 22), showed statistical significance with the ISC and other facets of the TSCS:2 in addition to the Academic/Work score. Hispanic American males and females both showed statistical significance between the ISC and the Personal score, and African American females and Hispanic males also showed statistical significance between the ISC and the Social score.
Table 17

*African American Females / ISC and Facets of the TSCS*

<table>
<thead>
<tr>
<th>Facet</th>
<th>Pearson correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic/Work</td>
<td>.475**</td>
<td>.012</td>
<td>27</td>
</tr>
<tr>
<td>Family</td>
<td>.121</td>
<td>.548</td>
<td>27</td>
</tr>
<tr>
<td>Moral</td>
<td>.303</td>
<td>.124</td>
<td>27</td>
</tr>
<tr>
<td>Personal</td>
<td>.228</td>
<td>.253</td>
<td>27</td>
</tr>
<tr>
<td>Physical</td>
<td>.116</td>
<td>.565</td>
<td>27</td>
</tr>
<tr>
<td>Social</td>
<td>.402*</td>
<td>.037</td>
<td>27</td>
</tr>
</tbody>
</table>

*p < .05, two-tailed.**p < .01, two-tailed.
Table 18

**African American Males / ISC and Facets of the TSCS**

<table>
<thead>
<tr>
<th>Facet</th>
<th>Pearson correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic/Work</strong></td>
<td>.254</td>
<td>.243</td>
<td>23</td>
</tr>
<tr>
<td><strong>Family</strong></td>
<td>-.018</td>
<td>.936</td>
<td>23</td>
</tr>
<tr>
<td><strong>Moral</strong></td>
<td>.165</td>
<td>.453</td>
<td>23</td>
</tr>
<tr>
<td><strong>Personal</strong></td>
<td>.183</td>
<td>.404</td>
<td>23</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td>.183</td>
<td>.404</td>
<td>23</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>.308</td>
<td>.153</td>
<td>23</td>
</tr>
</tbody>
</table>
Table 19

*European American Females / ISC and Facets of the TSCS*

<table>
<thead>
<tr>
<th>Facet</th>
<th>Measure</th>
<th>TSCS-total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson correlation</td>
<td>.590**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td><em>N</em></td>
<td>22</td>
</tr>
<tr>
<td>Academic/Work</td>
<td>Family Pearson</td>
<td>-.075</td>
</tr>
<tr>
<td></td>
<td>correlation</td>
<td>.739</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.739</td>
</tr>
<tr>
<td></td>
<td><em>N</em></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Moral Pearson</td>
<td>.044</td>
</tr>
<tr>
<td></td>
<td>correlation</td>
<td>.847</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.847</td>
</tr>
<tr>
<td></td>
<td><em>N</em></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Personal Pearson</td>
<td>.171</td>
</tr>
<tr>
<td></td>
<td>correlation</td>
<td>.446</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.446</td>
</tr>
<tr>
<td></td>
<td><em>N</em></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Physical Pearson</td>
<td>.125</td>
</tr>
<tr>
<td></td>
<td>correlation</td>
<td>.578</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.578</td>
</tr>
<tr>
<td></td>
<td><em>N</em></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Social Pearson</td>
<td>.215</td>
</tr>
<tr>
<td></td>
<td>correlation</td>
<td>.336</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.336</td>
</tr>
<tr>
<td></td>
<td><em>N</em></td>
<td>22</td>
</tr>
</tbody>
</table>

**p < .01, two-tailed.
**Table 20**

*European American Males / ISC and Facets of the TSCS*

<table>
<thead>
<tr>
<th>Facet</th>
<th>Pearson correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TSCS-total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic/Work</td>
<td>.557**</td>
<td>.011</td>
<td>20</td>
</tr>
<tr>
<td>Family</td>
<td>.182</td>
<td>.443</td>
<td>20</td>
</tr>
<tr>
<td>Moral</td>
<td>.292</td>
<td>.211</td>
<td>20</td>
</tr>
<tr>
<td>Personal</td>
<td>.238</td>
<td>.312</td>
<td>20</td>
</tr>
<tr>
<td>Physical</td>
<td>.336</td>
<td>.147</td>
<td>20</td>
</tr>
<tr>
<td>Social</td>
<td>.375</td>
<td>.103</td>
<td>20</td>
</tr>
</tbody>
</table>

**p < .01, two-tailed.**
Table 21

*Hispanic American Females / ISC and Facets of the TSCS*

<table>
<thead>
<tr>
<th>Facet</th>
<th>Pearson correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic/Work</strong></td>
<td>.554**</td>
<td>.005</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family</strong></td>
<td>.103</td>
<td>.633</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Moral</strong></td>
<td>.227</td>
<td>.016</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal</strong></td>
<td>.460*</td>
<td>.002</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td>.321</td>
<td>.014</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>.199</td>
<td>.000</td>
<td>24</td>
</tr>
</tbody>
</table>

*p < .05, two-tailed. **p < .01, two-tailed.*
Table 22

*Hispanic American Males / ISC and Facets of the TSCS*

<table>
<thead>
<tr>
<th>Facet</th>
<th>Pearson correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic/Work</td>
<td>.568**</td>
<td>.006</td>
<td>22</td>
</tr>
<tr>
<td>Family</td>
<td>.253</td>
<td>.255</td>
<td>22</td>
</tr>
<tr>
<td>Moral</td>
<td>.081</td>
<td>.721</td>
<td>22</td>
</tr>
<tr>
<td>Personal</td>
<td>.532*</td>
<td>.011</td>
<td>22</td>
</tr>
<tr>
<td>Physical</td>
<td>.381</td>
<td>.080</td>
<td>22</td>
</tr>
<tr>
<td>Social</td>
<td>.494*</td>
<td>.019</td>
<td>22</td>
</tr>
</tbody>
</table>

*p < .05, two-tailed. **p < .01, two-tailed.
Figures 2-7 represent the average score of the raw data gathered for each group. The highest possible score for the physical facet of the Tennessee Self-Concept Scale (TSCS) is 70. Further substantiating what was asserted in the literature review, Figure 2 showed that without exception, the females of each race scored lower than their male counterparts on the physical portion of the TSCS. According to the TSCS:2 Profile Sheet, a score of 54 would put a respondent at the 50th percentile for this age group. Therefore, African American males and Hispanic American males were the only two of the six groups who scored, on average, at or above the 50th percentile.

Figure 2. Average of Physical Facet on Tennessee Self-Concept Scale (TSCS) by both race and gender group.

The personal facet demonstrated statistical significance with the ISC for both Hispanic American males and Hispanic American females. This facet did not demonstrate statistical significance for any other group. The highest average score, as seen in Figure 3, for this facet was found in Hispanic American males.
A score of 48 is considered the 50th percentile for this age group. With the exception of European American females, each group scored, on average, at this level or higher. The highest possible score for this facet, and the remaining facets, is 60.

![Figure 3. Average of Personal Facet on TSCS by both race and gender group.](image)

The average score on the social facet for each group is listed in Figure 4. African American females and Hispanic American males were the only groups to show statistical significance between this facet and the ISC. The 50th percentile for this group is between a score of 45 and 46.
Figure 4. Average of Social Facet on TSCS by both race and gender group.

The Academic/Work facet, shown in Figure 5, was the most consistent facet to correlate with the ISC. With the exception of African American males, every other group showed some level of statistical significance between this facet and the ISC. For European American females and European American males, this was the only facet that was statistically significant with the ISC. The 50th percentile rank for this facet was between 45 and 46.
The moral (Figure 6) and family (Figure 7) facets did not demonstrate statistical significance for any of the groups posted individually; however, for the groups taken together as a whole, there was statistical significance for the moral facet (see table 16). For the family facet (Figure 7), as with the physical facet, female respondents consistently marked lower than their male counterparts for each group. The score for the 50th percentile on the moral facet was 44, and the score for the 50th percentile on the family facet was 45.
Figure 6. Average of Moral Facet on TSCS by both race and gender group.

Figure 7. Average of Family Facet on TSCS by both race and gender group.

The highest possible score for the Information Skills Checklist was 80. It is interesting to note that the highest correlation between the total TSCS score and
the ISC was for Hispanic American males (see Table 15), and they also had the lowest self-perceived score on the ISC.

![Figure 8. Average on Information Skills Checklist by both race and gender group.](image)

**Summary**

Pearson r was used to generate all of the data results in this chapter. Overall, there was a correlation between self-perceived information seeking skills and self-esteem for the group of adolescents surveyed. Further, the general group showed a statistically significant correlation with each of the self-concept facets and information seeking with the exception of the TSCS:2: Family facet.

Of the six groups studied, the two who showed a statistically significant correlation between the ISC and the TSCS:2 were Hispanic American males and females. However, there was a statistically significant correlation with the Academic/Work facet of the TSCS:2 and the ISC for every group except African American males.
Hispanic American males and females were the only groups that showed a statistically significant correlation between the Personal facet and the ISC, and, Hispanic American males and African American females were the only groups with a statistically significant correlation between the Social facet and the ISC.
CHAPTER 5
CONCLUSIONS

Introduction

Self-esteem and information seeking skills in adolescents have each been studied in the past and found to be predictors of academic success and later career success. This was the first study, however, to examine the relationship of these two factors to each other. The purpose of this study was to measure the correlation between self-esteem and self-perceived information seeking skills in adolescents and to determine whether this correlation varied according to race and gender. The Tennessee Self-Concept Scale, Second Edition, (TSCS:2), used to measure self-esteem had six different measurable facets that were part of its score: Physical, Moral, Personal, Family, Social, and Academic/Work. The scores for each facet were analyzed to determine which facets showed any correlation with information seeking ability. The Information Skills Checklist (ISC) was used to measure self-perceived information seeking skills. The instruments were administered to 10th-grade students at three high schools in a Midwestern metropolitan area. The correlations between the scores were tabulated for the entire group, for each race, for each gender, and for each race and gender group.

Major Findings

Findings for the study’s four research questions are presented below. All
correlations were measured using Pearson r, with significance determined at the .01 level (two-tailed) and in some cases the .05 level (two-tailed) where noted. The TSCS:2 has six separate facets that can be scored individually. The overall self-esteem measurement is yielded when these scores are combined. The raw score was calculated for each facet and total for each respondent. These raw scores along with the raw score for the ISC for each respondent were used to calculate correlations for the groups.

1. **Is there a significant correlation between self-perceived information seeking skills and self-esteem in adolescents?**

   Yes. There was a statistically significant correlation of .329 for the entire group between the TSCS:2 scores for self-esteem and the ISC scores for self-perceived information seeking skills. These results were as I expected.

2. **If there is a significant correlation, does the correlation vary by race and gender?**

   Yes. For Hispanic American females and Hispanic American males, there was a statistically significant correlation between the TSCS:2 total scores and the ISC scores. For African American females, African American males, European American females, and European American males, there was no correlation between these two scores. This was the first indication that there would be a variation between different groups.

   I expected the results of this study to be that there would either be no correlation or a lower correlation between self-perceived information seeking skills and self-esteem levels in males as compared to females. Further, I thought
that African American adolescent females with higher self-esteem levels would show an increased self-perceived ability to seek information. Neither of these was the case. A somewhat disturbing finding was that of all of the groups tested, African American males were the only group who showed no statistically significant correlation between self-perceived information seeking skills and self-esteem. African American males with particularly high self-esteem seemed to have some of the lowest self-perceived information seeking skills scores of all who reported.

3. **If there is a significant correlation by race and gender, what is the direction of the correlation by race and gender group?**

   The correlations by race and gender were consistently positive. As self-perceived information seeking skills increased, so did self-esteem. There were no negative correlations in this study.

4. **Which of six self-esteem facets have the most significant correlation to self-perceived information seeking skills?**

   For the entire group, there was a statistically significant correlation between each of the six facet scores on the TSCS:2 and the ISC, with the exception of the facet for Family.

   As was expected, the Academic/Work facet was statistically significant for each race-gender group, with the exception of African American males.

   For two groups—European American females and European American males—only the Academic/Work score and the ISC score showed a statistically significant correlation.
Correlations with two other facets were notable. For Hispanic American adolescents, both genders showed statistical significance with the Personal facet of the TSCS:2 and the ISC. Hispanic American males and African American females also showed statistical significance with the Social facet of the TSCS:2 and the ISC. I found no previous studies that contrasted the correlation between self-perceived information seeking ability and self-esteem in African Americans to indicate that this might consistently be the case between Hispanic American adolescents and African American female adolescents.

Contributions of the Study

This is the first study to address how self-esteem and self-perceived information seeking skills may correlate with one another in adolescents and how that correlation may vary because of race and gender. There have been several hundred studies on adolescent behavior and self-esteem. Though not as prevalent, there has also been extensive research on the use of information technologies by adolescents. These two situations combined led me to think that information on the correlation between self-esteem and information seeking ability among adolescents would have some mention in the literature but I found no studies that focused on this particular area. Information seeking ability is so critical to advancing one’s education and choices in the job market, that I felt this should be a part of the research available on adolescents.

The contributions of this research are multidisciplinary in scope. Primarily, this research contributes to the body of literature that involves information
seeking. This research also relates to areas of psychology because of the amount of research involving self-esteem and adolescents. And, it contributes to education because it is so closely related to the current practices of school systems. These variant perspectives helped me to better understand my results.

My results confirmed those of previous studies regarding self-esteem and gender. Forney et al. (2005, p. 215) found that, without exception, males scored higher than females not only when compared within each racial group, but across the board. Further, the minority female groups, both Hispanic and African American, scored higher than the European American female group. This was also consistent with Birndorf et al. (2005) findings that Hispanic American and African American female students score higher on self-esteem measurements than European American female students.

My studies also aligned with previous findings for this age group. The 10th graders I surveyed had self-esteem scores that were similar to those of adolescent students in a study by French et al. (2006), who found that African American and Hispanic American students exhibited higher self-esteem than European American students. The French et al. study was longitudinal and showed a reverse trend with age, where among the younger students (fifth and sixth grade), European Americans exhibited higher self-esteem. The researchers speculated that the reason for this trend was that older students (eighth and ninth grade) start to find other ways of measuring worth and establishing esteem. In my study, all of the schools had similarly
low socioeconomic levels that may have contributed to the students finding other ways of establishing group esteem.

The results of this study demonstrate that there is a correlation between self-perceived information seeking skills and self-esteem in adolescents. Further, the results demonstrate that this correlation varies according to race and gender of the respondent. And though there was a variation in correlation, with the exception of African American males, all respondents showed a statistically significant correlation with the Academic/Work facet of the Tennessee Self-Concept Scale and the Information Skills Checklist.

Limitations of the Study

The sample I used was gathered purposively. The students who participated were volunteers. The problem with data gathered in this way is that it can be tainted by some level of self-inflated response bias. Students who take part in this type of exercise may feel pressure to overrate their abilities. This is a well documented phenomenon in this type of research (Arnold & Feldman, 1981, p. 384).

The schools that I surveyed had student populations that were between 68.8% and 98.8% on free or reduced lunch, which means that there was not enough socioeconomic diversity among the students for this to be generalizable to geographic areas with more socioeconomic diversity. But, it is important to note that such high rates of low income students are not unusual to many areas of the United States.
Table 23

<table>
<thead>
<tr>
<th>City</th>
<th>% Low Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
<td>69</td>
</tr>
<tr>
<td>Chicago</td>
<td>85</td>
</tr>
<tr>
<td>Detroit</td>
<td>59</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>76</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>71</td>
</tr>
<tr>
<td>New York City</td>
<td>83</td>
</tr>
</tbody>
</table>


Two of the schools surveyed had very large minority populations which is also common in urban schools, which means that the results of my study may be generalizable to schools with similar demographics.

Students in my study self-reported their race on the Tennessee Self-Concept Scale. Two surveys were marked both Black and White. Although it is believed that the majority of African Americans are racially mixed, I had no way to verify these responses and chose to exclude the surveys from the analysis.
Future Research

Research related to adolescents and their use of technology will become increasingly important in a knowledge-based society. The results of this study have theoretical, methodological, and practical implications for future research.

Theoretical Implications

This research contributes to the growing body of information regarding the differences in how historically disenfranchised groups perceive the importance of academia. As mentioned in chapter 2, students in urban areas that are socioeconomically disadvantaged are overwhelmingly African American or Hispanic American. This fact suggests that these groups may have equally low levels of self-esteem and, based on correlations in this study, low levels of self-perceived information seeking ability. However, this was not the case. In this study, this lack of correlation only existed for African American males. This lack of correlation could be based on how students perceive a possibility of an economic payoff for their efforts. If this is the case, the data presented by Hacker (1992) that African American males receive the least salary for education achieved of all groups, African American females and Hispanic Americans included, may give the most justification for this finding.

These results should be considered generalizable for American adolescents, but the fact is that there are certain criteria that are true of the population tested. The first of these criteria is that the students tested resided in a Midwestern town of over 500,000. Geographic area may have
an impact on the results. If these same instruments were used in a southern city or a northeastern city, the correlations may not remain the same for the different groups tested.

Additionally, the racial make-up of a city or a school could impact the results as well. The impact of racial identity in the face of being the minority or the majority seems to be a legitimate one to investigate in this case. For example, one of the schools surveyed had a faculty that was overwhelmingly African American. African American students at this school may have a very different perception of academia than their counterparts at the other two institutions. Educated adult role models of the same race may have an impact on the perception of academia held by the students surveyed. My commitment to maintain the anonymity of the subjects resulted in some places where it would have been interesting to be able to know the identity of the subjects or at least which school they were from.

A key area that influences the self-esteem of all people would be that of socioeconomics. From table 1, one notices the high rate of students in each of the schools surveyed that benefit from the school lunch program. Students that are in a middle or upper class socioeconomic level may have responded differently. It would be advantageous to test a greater swath of the population that included students in more diverse socioeconomic areas.

Another observation made during this study was a new re-segregation present in American urban schools. All three of the schools were in the same
public school system, in a city that was nearly 70% European American. Nonetheless, there were no European American students in the 10th-grade class for one of these schools and European American students only made up 12% of the total high school population at another. This fact necessitated my speaking with the registrar of the school and requesting the names of those European American students so that I could go to their specific classrooms to recruit them for the study.

This school district’s *de facto* segregation was profiled in a book by Jonathan Kozol entitled *The Shame of the Nation: The Restoration of Apartheid Schooling in America*. In his book, Kozol referred to the new segregation that is present in public schools. In fact, his text devoted several pages to this condition in the city where my data was gathered (2005, pp. 163-166).

**Methodological Implications**

Information seeking skills are rapidly becoming some of the most important skills that are learned during a student’s K-12 experience. It would be valuable to actually test students’ information seeking skills and compare it to their self-perceived information seeking skills as a part of developing research related to this area.

However, unlike the criteria for algebra or grammar skills, the criteria for information literacy skills are nebulous. Several states have or are developing assessments that incorporate some form of computer or information literacy, but outside researchers do not have access to them. With the establishment of the
National Educational Technology Standards (NETS) there is a set of standards for information literacy to which school systems can aspire. As a result, states have added sections to their standardized examinations that test for these skills, which means that they have all tried in some form to articulate what is being tested for. Researchers need access to these examinations so that they can assess how they are being used across different states and verify whether they are all accurately testing for information seeking skills.

Some information skills tests emphasize the ability to identify specific items in a library while others emphasize critical thinking when choosing information sources. The instrument I used for this study, Information Skills Checklist, contained elements of both these areas and gave students the opportunity to articulate their own perception of how well they could design research. The ISC was loosely based on the “Basic Skills Checklist” which was available from High Plains Regional Technology in Education Consortium. Some of the questions on the test were modified to more closely reflect the way high school students relate to information skills and processes. The research community would benefit from further use of the ISC because of its high reliability score. Further, it is an opportunity to develop a survey that is widely available for public use in the classroom that is not restricted to any one state.

For a publicly available free instrument, the ISC scored remarkably high (.921) on Cronbach’s Alpha test of internal reliability. I plan to use the ISC for future research projects. Because technology language evolves quickly, it would
be necessary to update the instrument regularly. Researchers in the realm of
information seeking need a standardized examination in order to better assess
student abilities. The ISC tests self-perceived ability, but at this point an
instrument needs to be developed that assesses self-perception and actual
ability. Because few such instruments are available, I would like to make the ISC
available to other researchers so that a standardized exam could be developed
that is independent of any standardized state exam.

Researchers who study racial differences should keep in mind the fact that
many individuals, particularly African Americans, are racially mixed. Today's high
school students were born to parents, including mixed-race couples, who grew
up after the Civil Rights Movement. These students have new definitions of and
attitudes toward race. For example, where in the past Americans were
discouraged from acknowledging miscegenation in their families, it is now
common for many high school students to claim interracial backgrounds without
fear of being stigmatized.

Practical Implications

From a historical perspective, different groups have had different access
to job and career opportunities. For this reason, it is understandable that one
group may have a positive correlation, a negative correlation, or no correlation
whatsoever between self-esteem and self-perceived information seeking skills.
Nonetheless, information seeking ability is a vital factor in the development of
academic prowess and in the attainment of career goals in western society. For
this reason, the most important practical implication of this is that it will become increasingly important in a knowledge-based economy that all groups understand the connection between information literacy and career outcome.

Educators have yet another challenge in the delivery of equitable education in that the perception of the importance of information seeking will need to be presented to these students in a way that they begin to better understand its impact on their futures. School systems with largely African American populations should note that they may need to do more proactive teaching in the realm of information literacy to be able to best serve their students, especially their African American males.

It is crucial to build the connections between information literacy and career outcome early in the academic careers of all students, but, in light of this research, especially African American males. Encouraging African American males in a way that begins to diminish the disincentives that have been put in place by society, such as lower pay for equal work and negative peer-pressure, when it comes to their academic prowess will become increasingly important. The most effective way to demonstrate this connection is to develop programs that show practical applications of information literacy before students reach high school so that they will recognize the practical uses of information. This will require librarians and teachers to go beyond the standard “Trip to the Library” format for teaching information literacy to demonstrate real-world applications. Most importantly, educators must maintain high expectations for information
literacy with all groups and encourage only the best performance from every student, regardless of race.

The issue that was the most pressing when developing this research was that of disenfranchisement. Access to education has historically been the great equalizer in America, but the cost of quality access to education may become a problem for students who are in areas where spending does not keep pace with their educational needs. How can these students be expected to compete when they have never had the opportunity to access what their more affluent counterparts access? My hope is that this research will impact the teaching of information seeking skills to disenfranchised groups.

Mastering the information process has become an integral part of education and career choice for this and future generations of students. And, while research on the interaction of students and information technology is prevalent, and research on students and self-esteem is prevalent, research that addresses all three of these concepts is not. For this reason, research in this area is vital and necessary for what has been called the Information Age. Therefore, this study should be one of many to address this issue.

Summary

Correlations do exist between self-perceived information seeking skills and self-esteem; therefore, I hope that educators will take this information into consideration and establish environments that allow these students to more fully develop as information seekers. From my own personal observations as an
educator, students with high or average levels of self-esteem did seem more likely to pursue assistance when they needed help with schoolwork or had a question about where to look for career information. So, while scholars are split on the importance of self-esteem and academic achievement, I have observed that if self-esteem equates to higher levels of courage when it comes to asserting oneself in a positive manner in the classroom or in other information seeking endeavors, it is definitely worth being encouraged.

A key finding of this study was the difference in correlation between African American males and the other groups tested. While I had expected little or no correlation between self-perceived information seeking skills and self-esteem for males in general, African American males were the only group that bore this out in the data. This was not surprising in view of the social factors that might contribute to such a finding. It does, however, present more of a challenge to educators. Sadly, many of the schools in urban areas whose students lack financial resources outside the classroom are minority students who will find a lack of access to technology in their classrooms. This problem only works to further remove those students from the benefits of acquiring information skills.

Educators should keep in mind that there are many factors contributing to the futures of adolescents. Access to quality education, opportunities, role models, and technological facilities all play roles in how students perceive their future in a knowledge-based economy.
APPENDIX A

INFORMATION SKILLS CHECKLIST

This checklist was based in part on an instrument that was available from the High Plains Regional Technology in Education Consortium. This center was funded by the US Department of Education from 2000-2005. The checklist that was used for this study was finalized in 2003.
Information Skills Checklist
This survey will help you identify your information skills that you use well and those which need improvement.

1 I can write a series of questions to direct my research.
   1. Never
   2. Sometimes
   3. Usually
   4. Always

2 I can describe when to use a general encyclopedia as a source of information.
   1. Never
   2. Sometimes
   3. Usually
   4. Always

3 I can use search features of the library catalog or OPAC to locate a specific title, author or subject.
   1. Never
   2. Sometimes
   3. Usually
   4. Always

4 I can locate the bibliographic details (title, author, date) from the library catalog record.
   1. Never
   2. Sometimes
   3. Usually
   4. Always

5 I can use reference materials such as encyclopedias (both books and online) to get a basic understanding of a topic.
   1. Never
   2. Sometimes
   3. Usually
   4. Always

6 I can find information from books using indexes, table of contents, etc.
   1. Never
   2. Sometimes
   3. Usually
   4. Always
7 I can find information on a CDROM.
   1. Never
   2. Sometimes
   3. Usually
   4. Always

8 I can, when using the World Wide Web, type in an address (URL) for a specific site.
   1. Never
   2. Sometimes
   3. Usually
   4. Always

9 I can, when using the library catalog, combine keywords using AND, OR, or NOT.
   1. Never
   2. Sometimes
   3. Usually
   4. Always

10 I can, when searching the Web, enter keywords using ““, ?, +, or -. 
    1. Never
    2. Sometimes
    3. Usually
    4. Always

11 I can locate the search hints page on a Web search engine.
    1. Never
    2. Sometimes
    3. Usually
    4. Always

12 I can understand when to use a meta search engine (such as Dogpile) versus a regular search engine (such as Google).
   1. Never
   2. Sometimes
   3. Usually
   4. Always

13 I can follow copyright regulations with regard to information on the Web.
   1. Never
2. Sometimes
3. Usually
4. Always

14 I can copy and paste information from a Web site into a document in a word processor.
1. Never
2. Sometimes
3. Usually
4. Always

15 I can save an image from a Web site to a disk.
1. Never
2. Sometimes
3. Usually
4. Always

16 I can evaluate the information from a Web site for accuracy, currency and authority.
1. Never
2. Sometimes
3. Usually
4. Always

17 I can write papers in my own words using the information I have found.
1. Never
2. Sometimes
3. Usually
4. Always

18 I can present my information in essay form.
1. Never
2. Sometimes
3. Usually
4. Always

19 I can present my information as a written project with graphics/illustrations.
1. Never
2. Sometimes
3. Usually
4. Always
20 I can critically evaluate my information skills that need improving.
   1. Never
   2. Sometimes
   3. Usually
   4. Always
APPENDIX B

PARENT INFORMATION LETTER
Dear Parent(s) or Guardian(s) of a (Name Withheld) High School Student,

Your son or daughter will have the opportunity to participate in a study that will be conducted at (Name Withheld) High School that will seek to determine whether there is a correlation between information seeking ability and self-esteem. The following information describes the study. This letter is accompanied by a Research Consent Form that you will sign and return to (Name Withheld) High School, if you consent for your child to participate.

If you have any further questions, please feel free to contact me, Lynne Simpson-Scott at XXX-XXX-XXXX or Dr. Linda Schamber, Associate Professor of the School of Library and Information Sciences, University of North Texas, at XXX-XXX-XXXX.

Students do have the right to not participate or to withdraw from the study at any time. Thank you for your time.

Title of Study: The correlation between information seeking behavior and self-esteem in adolescents by race and gender

Principal Investigator: Lynne Simpson-Scott

Co-investigator(s): Dr. Linda Schamber

Start Date of Study 02/01/2004

End Date of Study 02/01/2006

Purpose of the Study
The ability to seek and find information is vital to helping students become successful both at school and in everyday life. The purpose of this study is to find out whether information seeking ability and self-esteem are related. If they are related, we can develop programs to help students improve their information seeking ability and self-esteem at the same time.

Description of the Study
We have selected certain classes at (Name withheld) that contain a mix of male and female students and students in different racial/ethnic groups. We are asking all the students in each class to answer two simple questionnaires. The first
questionnaire will give us data on information seeking ability, and the second will give us data on self-esteem.

**Procedures to be used**  
Each student will be asked to take two questionnaires, one to measure information seeking ability and one to measure self-esteem. Each questionnaire will take about 10 minutes.

**Description of the foreseeable risks**  
There are no foreseeable risks.

**Benefits to the subjects or others**  
Students will not benefit directly from this study, but their answers will help us do a better job in the future of teaching students how to find information.

**Procedures for Maintaining Confidentiality of Research Records**  
Names will not appear on the tests, so no one can connect answers to individuals in any way.

**Review for the Protection of Participants**  
This study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects 940-565-3940.

Sincerely,

Lynne Simpson-Scott
APPENDIX C

RESEARCH CONSENT FORM
Subject Name: ________________________  Date: _______________________

Title of Study
The correlation between information seeking behavior and self-esteem in adolescents by race and gender

Principal Investigator: Lynne Simpson-Scott

Co-investigator(s): Dr. Linda Schamber
Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the proposed procedures. It describes the procedures, benefits, risks, and discomforts of the study. It also describes your right to withdraw from the study at any time. It is important for you to understand that no guarantees or assurances can be made as to the results of the study.

Start Date of Study  End Date of Study
02/01/2004  02/01/2006

Purpose of the Study
The ability to seek and find information is vital to helping students become successful both at school and in everyday life. The purpose of this study is to find out whether information seeking ability and self-esteem are related. If they are related, we can develop programs to help students improve their information seeking ability and self-esteem at the same time.

Description of the Study
We have selected certain classes at your school that contain a mix of male and female students and students in different racial/ethnic groups. We are asking all the students in each class to answer two simple questionnaires. The first questionnaire will give us data on information seeking ability, and the second will give us data on self-esteem.

Procedures to be used
You will be asked to take two questionnaires, one to measure information seeking ability and one to measure self-esteem. Each questionnaire will take about 10 minutes.

Description of the foreseeable risks
There are no foreseeable risks.

Benefits to the subjects or others
You will not benefit directly from this study, but your answers will help us do a better job in the future of teaching students how to find information.

Procedures for Maintaining Confidentiality of Research Records
Your name will not be on your tests, so no one can connect your answers to you in any way.
Review for the Protection of Participants
This study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects 940-565-3940.

Research Subject's Rights
I have read or have had read to me all of the above.
Lynne Simpson-Scott has explained the study to me and answered all of my questions. I have been told the risks or discomforts and possible benefits of the study.
I understand that I do not have to take part in this study. If I decide to not participate or withdraw from the study, it will not affect my grades or school work in any way. The study personnel may choose to stop my participation at any time.
In case problems or questions arise, I have been told I can contact Lynne Simpson at XXX-XXX-XXXX and Dr. Linda Schamber, Associate Professor of the School of Library and Information Sciences at XXX-XXX-XXXX.
I understand my rights as a research subject and I voluntarily consent to participate in this study. I understand what the study is about, how the study is conducted, and why it is being performed. I have been told I will receive a signed copy of this consent form.

________________________________________________________________________  ______________
Signature of Subject                                                      Date

________________________________________________________________________  ______________
Signature of Witness                                                    Date

For the Investigator or Designee

I certify that I have reviewed the contents of this form with the person signing above. I have explained the known benefits and risks of the research. It is my opinion that the subject understood the explanation.

________________________________________________________________________  ______________
Signature of Principal Investigator                                  Date
REFERENCES


Merkel, C.B. (2002). *Uncovering the hidden literacies of “have-nots”: A study of computer and Internet use in a low-income community.* University of Illinois at Urbana-Champaign.


Peckham, S. (2008, February). Education news in brief: Middle school laptop program improves writing skills. *Education Digest, 73*(6), 75-76.


