MEASURING THE SOURCES OF SOCIAL SELF-EFFICACY

A Dissertation
Presented in partial fulfillment of the requirements for
the degree of Doctor of Philosophy in the
Graduate School of The Ohio State University

By
Steven Louis Anderson

The Ohio State University
1998

Doctorate Examination Committee:
Nancy E. Betz, Ph.D., Advisor
W. Bruce Walsh, Ph.D.
Samuel H. Osipow, Ph.D.

Approved by:

Advisor
Department of Psychology
ABSTRACT

This study sought to improve a measure of the sources of social self-efficacy (the Social Sources Scale (SSS)), which was developed as a part of Anderson (1996). The internal consistency reliability of the original SSS was inadequate (.79). By revising that scale in this study the alpha was increased to .94. Also, Anderson (1996) tested only a portion of Bandura's (1977) theory of self-efficacy as it pertains to the social domain. While that study only measured the sources of social self-efficacy, this study sought to see how the SSS related to given outcomes of social self-efficacy (i.e., depression, social anxiety, shyness, and social risk-taking), as well as two criterion measures of social self-efficacy. Results of this study supported Bandura's theory. Results also provide evidence that the instrument revised as a part of this study (the SSS) shows promise for use in counseling and research settings to measure the antecedents of an individual's sense of social self-efficacy.
Dedicated to my wife, Anne, and my children, Molly and Julie
ACKNOWLEDGEMENTS

I would like to thank my advisor, Dr. Nancy Betz, for her guidance throughout the course of this research. Her enthusiasm and support were vital to its completion. I would also like to thank the members of my examination committee, Dr. W. Bruce Walsh and Dr. Samuel Osipow for their insightful comments and suggestions. I also owe a debt of gratitude to my research assistant, Don Currier. He provided tireless effort on this project. I owe a debt of gratitude to Dr. Robert Lent for his help in designing the instrument in this dissertation. I also want to extend a heartfelt thank you to the entire faculty and staff in the Counseling Psychology Department at The Ohio State University. These have been four of the most rewarding years of my life, thanks to their efforts. I also owe a debt of gratitude to my father, Donald Anderson, whose love for science inspired my own curiosity and desire in this field. Finally, I would like to thank my wife Anne, for her support of me and faith in me throughout this process.
VITA

June 7, 1957 ............. Born – Toledo, Ohio

1980 ...................... B.S., The Ohio State University, Columbus, Ohio

1994 ...................... M.B.A., Capital University, Columbus, Ohio

1996 ...................... M.A., The Ohio State University, Columbus, Ohio

FIELD OF STUDY

Major Field ................ Psychology
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>iii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>VITA</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>CHAPTERS</td>
<td></td>
</tr>
<tr>
<td>1 INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>2 LITERATURE REVIEW</td>
<td>12</td>
</tr>
<tr>
<td>3 METHOD</td>
<td>32</td>
</tr>
<tr>
<td>4 RESULTS</td>
<td>47</td>
</tr>
<tr>
<td>5 DISCUSSION</td>
<td>61</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>71</td>
</tr>
<tr>
<td>APPENDICES</td>
<td></td>
</tr>
<tr>
<td>A. THE SOCIAL SOURCES SCALE</td>
<td>77</td>
</tr>
<tr>
<td>B. THE ORIGINAL SOCIAL SOURCES SCALE</td>
<td>81</td>
</tr>
<tr>
<td>C. DEBRIEFING STATEMENT</td>
<td>84</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bandura's Self-Efficacy Model (As adapted by Betz, 1992, based on Bandura, 1977)</td>
</tr>
<tr>
<td>2</td>
<td>Holland's Hexagon and the General Occupational Themes (Holland, 1973)</td>
</tr>
<tr>
<td>3</td>
<td>Bandura's Self-Efficacy Model as Applied to Social Self-Efficacy (As adapted by Betz, 1992, based on Bandura, 1977)</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Values of Coefficient Alpha Reliabilities for the Social Sources Scale</td>
</tr>
<tr>
<td>2</td>
<td>Frequencies, Percentages, Means, and Standard Deviations on the Total Social Sources Scale for Each Demographic Variable</td>
</tr>
<tr>
<td>3</td>
<td>Means, Standard Deviations, and Gender Comparisons on the Social Sources Scale (SSS), the Skills Confidence Inventory (SCI), and the Social Scale of the Self-Efficacy Scale</td>
</tr>
<tr>
<td>4</td>
<td>Means, Standard Deviations, and Gender Comparisons on the Social Anxiety Subscale of the Self-Consciousness Scale, the Shyness Scale, the Attitudes Toward Risk Scale, and the Beck Depression Inventory</td>
</tr>
<tr>
<td>5</td>
<td>Correlations between the scales of the SSS and the Criterion Scales of Social Confidence (SCI) and Social Self-Efficacy (SES) (by gender)</td>
</tr>
<tr>
<td>6</td>
<td>Correlations between the Social Sources Scale and Skills Confidence Inventory Scales (by gender)</td>
</tr>
<tr>
<td>7</td>
<td>Relationships of the Social Sources Scales, Social Self-Efficacy, and Social Confidence to Outcome Measures (by gender)</td>
</tr>
<tr>
<td>8</td>
<td>The Psychometric Characteristics of the Subscales of the Subscales of the Sources of Self-Efficacy (by gender)</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

One of the most heuristically and practically useful themes in career
development research has been the application of Bandura’s self-efficacy theory
to the study of educational and vocational behavior. Bandura developed the
theory of self-efficacy as a social learning theory to explain behavior change. He
theorized that behavior change was cognitively mediated (Bandura, 1977, 1986).

Bandura postulated that self-efficacy expectations are an important
consideration in predicting three general classes of behavior, as shown in
Figure 1. First, self-efficacy expectations affect whether an individual will
“approach” a given behavior (such as a social interaction) or “avoid” it. Bandura
reasoned that a person is more likely to attempt behaviors toward which he/she feels more confident (i.e., has higher levels of self-efficacy expectations) and
more likely to avoid those behaviors toward which he/she feels incompetent or
lacks confidence (i.e., has low self-efficacy expectations). He also saw self-
efficacy expectations as influencing the likelihood that an individual will perform a
Figure 1

BANDURA'S SELF-EFFICACY MODEL

(As adapted by Betz, 1992, based on Bandura, 1977)
behavior successfully. The theory also states that self-efficacy expectations will predict whether or not an individual will persist in the face of obstacles.

Bandura also postulated four sources of information that affect one's level of self-efficacy expectations, or confidence, in a given domain (e.g., social). Those sources, shown on the left side of Figure 1, are: performance accomplishments (past success in the behavior in question), vicarious learning or modeling, emotional arousal (especially anxiety), and verbal persuasion (encouragement form others). Bandura states that these sources of information affect one's perceptions that he/she can accomplish a given set of behaviors. It is also important to note that Bandura suggested that performance accomplishments are the most important factor influencing the development of one's self-efficacy expectations (1986).

Career self-efficacy, as a major mediator of both behavior and behavior change, was first investigated by Betz and Hackett (1981), who reported that college students' beliefs about their educational and occupational capabilities significantly related to the nature and range of career options they considered. Their findings have been replicated in other samples (Layton, 1984; Zilber, 1988). Applications of self-efficacy theory to career decision-making skills (Taylor & Betz, 1983; Taylor & Popma, 1990) suggest its utility as a predictor of career indecision. More generally, meta-analysis and reviews (Betz & Luzzo, 1996; Hackett & Lent, 1992; Lent, Brown, & Hackett, 1994; Muton, Brown, & Lent, 1991) strongly support the role of self-efficacy as a predictor of
academic performance and persistence as well as career decision-making intentions and behaviors. For instance, a publication by Lent, Brown, and Hackett (1994) stated that "Self-efficacy expectations and outcome expectations each appear to account for approximately 27% of the variance in vocational interests". (pg. 110) Those two factors accounted for more variance in vocational interests than did ability (4%) or performance (2%).

Although there are many career domains to which self-efficacy theory is applicable, one approach to the conceptualization of relevant career domains is Holland's theory. Holland (1997) proposed a theory of career development that utilized six general occupational themes, or areas of career interest (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) (See Figure 2). For each theme listed in Figure 2, examples of activities in that theme are listed. The central idea of the theory is to indicate an individual's basic type (using a career interest inventory, such as the Strong Interest Inventory; Harmon, Hansen, Borgen & Hammer, 1994) and then attempt to match him/her to a similar type environment (Harmon et al., 1994). Holland's theory states that a high level of "congruence", or match, between personality type and environment is a good predictor of job satisfaction. So, for instance, an individual who enjoys teaching, explaining, or helping others might enjoy a social type occupation, such as social worker. Holland's theory has been supported by a substantial amount of research evidence (e.g., Harmon et al., 1994; Wakefield & Doughtie, 1973; O'Neil, Magoon, & Tracey, 1978).
Figure 2

Holland’s Hexagon and the General Occupational Themes.
(Holland, 1973)
Considering the importance of congruence, an individual who shows a strong social orientation on her Holland score, but has a low level of perceived social self-efficacy, may unnecessarily exclude careers in those fields (e.g., counselor). Betz, Borgen, and Harmon (1996) have studied the phenomenon of high interest and low self-efficacy as a barrier to career path as part of the development of the Skills Confidence Inventory (SCI). That research indicates that roughly 25% of the time, individuals who score high in interest on a given Holland theme (e.g., social) score low on self-efficacy for that theme, presenting a possible perceived obstruction to a career path (e.g., psychologist).

Although considerable research has focused on the behavioral consequences of self-efficacy expectations (the right side of Figure 1), there has been comparatively little research investigating the left side of the model, that of the informational sources of self-efficacy expectations. The study proposed herein is directed toward exploring these postulated antecedents of social self-efficacy beliefs. Social self-efficacy was chosen as the behavioral domain of this study because social skills are presumed to be important for participation in a wide variety of career fields, especially those which are represented by the social code of Holland's (1985) career hexagon.

Studying the validity of Bandura's postulates concerning the four sources of social self-efficacy information is important, first, to confirm or disconfirm the relationship of each source of efficacy information to the construct of interest, that is, perceived social self-efficacy. Those sources most closely related to
social self-efficacy would provide the most important, that is, heavily emphasized, components of interventions focused on increasing social self-efficacy. Second, a good measure of the sources of social self-efficacy could be useful in individual assessment and counseling. If one were to be able to measure an individual's access to or experience with the sources of social self-efficacy, indications would be given for interventions to increase those levels of perceived efficacy. For instance, if an individual scored low on verbal persuasion, a counselor might use encouragement as one method of helping that individual increase his/her social self-efficacy, thus, preventing the unnecessary exclusion of a social occupation for that individual.

In a previous study Anderson (1996; also, Anderson & Betz, 1997) developed an instrument called the Social Sources Scale (SSS), which was designed to measure the four sources of social self-efficacy information as presented in Bandura's theory (1977, 1986). The instrument developed as a part of that study (the SSS) was not considered reliable enough for research or counseling purposes. Its overall reliability was .79 and subscale reliabilities ranged from .49 to .73.

Validity for some scales of the SSS appeared to be adequate (Performance Accomplishments, Emotional Arousal, and Verbal Persuasion), but appeared to be inadequate on the Vicarious Learning subscale. The following figure (Figure 3) provides a summarizes the criterion-related validity derived from Anderson (1996), and Anderson & Betz (1997). Similar to Figure 1, Figure 3
Note: Data are taken from Anderson, 1996. Values are for the social confidence scale from the Skills Confidence Inventory and the social self-efficacy scale from the GSE, respectively. For correlations shown in parentheses above, based on an N of 229 overall, values of .13, .17, and .25 are significant at the .05, .01, and .001 levels, respectively.

Figure 3
BANDURA'S SELF-EFFICACY MODEL AS APPLIED TO SOCIAL SELF-EFFICACY
(As adapted by Betz, 1992, based on Bandura, 1977)
depicts Bandura's self-efficacy model, but correlations of the sources of social self-efficacy with social self-efficacy, the criterion, have been added to that figure. Within each parentheses, the correlation on the left is that between the source measure (e.g., performance accomplishments) and social self-efficacy measured by the Skills Confidence Inventory (SCI) (Betz et al., 1996). The correlation on the right side is that between source measure and social self-efficacy subscale of the Self-efficacy Scale (SES) (Sherer & Maddux, 1981).

Anderson (1996) and Anderson and Betz (1997) also found evidence for convergent and discriminant validity for the SSS. In order to understand how correlations between the SSS and the SCI could provide convergent and discriminant validity for the SSS one must understand the nature of the Holland hexagon. The hexagon is arranged so that themes which are adjacent on the hexagon have higher correlations than themes that are disparate. Also, the greater the Euclidean distance between two themes, the lower the correlation between them (Harmon et al., 1994). For instance, the Social theme has high correlations with the Enterprising and Artistic themes, but a low correlation with the Realistic theme.

Since the SSS measures a construct which is theoretically similar to the adjacent Holland themes (Artistic and Enterprising) one would expect there to be moderate correlations between scores on the scales of the SSS and scores on these scales of the Skills Confidence Inventory (SCI) since the SCI measures
confidence for each of the Holland themes. Those correlations, where they exist, would provide convergent validity for the SSS.

Conversely, scores on the SSS should have low correlations with a measure of self-efficacy on the Realistic Holland theme (because it has the greatest Euclidean distance from the Social theme). Low correlations between these disparate constructs (i.e., the sources of social self-efficacy and the Realistic Holland theme) would provide discriminant validity for the SSS.

It should be noted that the correlations discussed above were, in general, found in Anderson (1996). Specifically, correlations between scores on the SSS and the various scales of the SCI were as follows: Social theme .49; Enterprising theme .52; Artistic theme .22; Conventional theme .29; Investigative theme .22; and the Realistic theme .19. One of the objectives of the present research is to replicate, and hopefully improve upon these findings, by increasing correlations with similar constructs (e.g., Social theme of the SCI), and reducing correlations with disparate constructs (e.g., Realistic theme of the SCI).

Although the results of the Anderson (1996) research suggested optimism regarding the predictive validity of a measure of the sources of social self-efficacy, the research also suggested some serious inadequacies needing attention, especially, in the area of internal consistency reliability. Most importantly, with the exception of verbal persuasion, which had a value of coefficient alpha of .73, the subscales did not meet the generally accepted minimum alpha of .70 for instruments to be used in research, not to mention the
minimum of .80 for instruments desired for counseling uses (See Nunnally & Bernstein, 1994; and Walsh & Betz, 1995). Accordingly, an attempt to improve the internal consistency reliability of the scales will be made by removing items with low inter-item correlations, increasing the number of items on some scales (e.g., vicarious learning had only four items), and using information from other instruments measuring sources of self-efficacy (e.g., the Mathematics Self-efficacy Sources Scale) (Lent, Lopez, & Biesche, 1991).

In sum, although an initial attempt to measure the sources of social self-efficacy has been made (in Anderson, 1996 and Anderson & Betz, 1997), more research is needed. The program of research to be pursued in this study will be designed to refine and elaborate on the work of Anderson (1996). Thus, the purposes of the next study will be as follows:

1) to attempt to improve the internal consistency reliability of the performance accomplishments, vicarious learning, emotional arousal, and verbal persuasion subscales of the SSS.

2) to further investigate the construct validity of the SSS and, simultaneously, the validity of Bandura’s postulates regarding the initial development of self-efficacy expectations; and,

3) to investigate some of the consequences of perceived social self-efficacy. Specifically, this study will investigate the relationship of social self-efficacy to measures of depression, social risk-taking, shyness, and anxiety.
CHAPTER 2

LITERATURE REVIEW

Introduction

The following chapter reviews literature related to the construct of the sources of social self-efficacy information. This discussion will begin with an explanation of Bandura's (1977, 1986) self-efficacy theory. That will be followed by an explanation of Holland's (1985) theory of career development, as well as how the concept of self-efficacy has been applied to Holland's theory. Next, literature pertaining to social self-efficacy will be presented. Following this will be an exploration of constructs related to social self-efficacy, specifically; shyness, social anxiety, and social skills. Next will be a presentation of research which has explored the sources of self-efficacy in other domains. The chapter will conclude a reiteration of the purposes of the study.

Self-efficacy theory.

One theoretical framework which has received increased attention in recent years is Bandura's (1977, 1986) self-efficacy theory. Self-efficacy can be defined as an individual's confidence in his/her ability to perform a given
behavior. As shown in Figure 1 (contained in Chapter 1), self-efficacy expectations are postulated by Bandura to develop through (and are modified by) four sources of background, or experiential, information, shown on the left side of the figure. These sources are performance accomplishments, vicarious learning, emotional arousal (generally considered anxiety), and verbal persuasion.

The postulated consequences of perceived self-efficacy are shown on the right side of Figure 1. The three consequences are choice (approach or avoidance), performance in the domain (e.g., social), and persistence in the face of adversity. In the social domain, for instance, choice problems could include avoiding social-type occupations because one has a low perceived self-efficacy in that area. Performance issues could be the anxiety developed by becoming easily embarrassed in social situations. Persistence issues could include continuing to engage in social interactions in the face of rejection form others.

Bandura's theory is useful because the approach to improving low perceived self-efficacy is contained within the theory. That is, if an individual has low perceived self-efficacy in a given domain, interventions should be aimed at enhancing performance accomplishments, vicarious learning, and verbal persuasion, and decreasing anxiety.

**Self-efficacy and Holland's Theory**

Although there are many career domains to which self-efficacy theory is applicable, one major way of conceptualizing relevant career domains is
Holland's theory. Holland (1997) developed a theory of career development which uses six occupational themes (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional). These themes are depicted on Holland's Career Hexagon in Figure 2. The themes are placed on the hexagon according to how similar they are to each other. That is, adjacent themes are highly correlated, and disparate themes have low, or nonexistent correlations (Harmon et al., 1994). The most important concept of Holland's theory is congruence, or match, between an individual's own Holland code and that of the environment where he/she works. Congruence has been shown to be a good predictor of job satisfaction (Harmon et al., 1994). Considering the importance of congruence in predicting job satisfaction, an individual who has a social Holland code, for instance, but has low perceived self-efficacy in that area, may unnecessarily exclude careers in that field (e.g., social worker).

**Social Self-efficacy and Holland's Theory**

One of the most important career relevant domains in Holland's theory is the social domain because understanding the social theme and its relationship to self-efficacy may prove useful in explaining career development in social fields. Social self-efficacy can be defined as an individual's confidence in his/her ability to perform a desired behavior in social situations (Wallace & Alden, 1991).

As indicated earlier, the study of social self-efficacy may have implications for understanding the career development process. Much of the available research on academic and career self-efficacy beliefs has been stimulated by
Hackett & Betz's (1981) assertion that these beliefs may help determine educational and career behavior. That study indicated that low self-efficacy in a specific domain can restrict the career opportunities of individuals or groups of individuals (e.g., women) in that domain. In that study it was shown that women unnecessarily exclude themselves from math and science based majors in college because of low perceived self-efficacy in math skills. This may unnecessarily prohibit them from some financially rewarding careers which require a strong background in mathematics, such as medicine or engineering. It would appear that there is no innate reason women should do more poorly than men in mathematics. With that in mind, it could be that negative socialization plays a large role in the development of a woman's sense of perceived self-efficacy in this domain. In a follow-up article, Betz argued that career counselors need to be aware of the affects of negative socializations and be prepared to intervene to offset its effects (Betz, 1992).

It is conceivable that problems resulting from negative socialization might affect an individual's career expectations in other domains, including social. While females are generally encouraged to be socially active, the same is not true for males (Betz & Fitzgerald, 1987). Therefore, a male with an interest in a social occupation may not consider that area because of low self-efficacy in that domain. The idea that males miss opportunities in social fields because of low self-efficacy has been supported by research (Giankos & Subich, 1988).
Supporting this concept are a series of studies by Betz et al. (1996) which culminated in the development of the Skills Confidence Inventory (SCI) to assess an individual’s sense of self-efficacy in each Holland Code. In roughly 25% of the cases in which the SCI is administered low self-efficacy appears to be a barrier to that individual entering their field of interest.

There is also evidence that individuals with low perceived social self-efficacy have difficulties in career decision-making. A study by Betz and Schifano (1998) showed that social self confidence, as measured by the SCI, is related to Career Indecision, as measured by the Career Decision Scale (Osipow, 1987), indicating that individuals with low perceived social self-efficacy may have difficulty choosing a career. Thus, training in social skills may be an important component of, or adjunct to, career development interventions.

The preceding discussion of literature relating to the construct of social self-efficacy gives an indication of its importance in predicting behaviors in the career domain. While the aforementioned discussion is important for understanding the purposes of this study further background is necessary to gain an added appreciation for the construct of the sources of social self-efficacy. That is, it was decided that to develop a thorough understanding of the construct of the sources of social self-efficacy, one must try to gain an understanding of how it is related to similar constructs. Three constructs were selected for comparison to the sources of social self-efficacy: shyness, social anxiety, and social skills.
Shyness

Shyness was selected as a construct to compare to SSS for this study because it can be considered an outcome (the right side of Figure 1) of a low sense of social self-efficacy. Hence, it was anticipated that a measure of SSS would have a negative relationship with a measure of shyness. Also, since the focus of this study was how SSS influences career development, and since information is available about how shyness influences career development (Hamer & Bruch, 1997; Phillips & Bruch, 1988), an understanding of this construct was warranted.

Cheek and Buss (1981) define shyness as discomfort and inhibition in the presence of others. Shyness is a complex phenomenon: situational shyness (the experience of shyness symptoms in response to some social situations) is very common (Crozier, 1982), but less than half of those who experience shyness consider themselves to be shy (Zimbardo, 1977). Apparently, experiencing situational shyness (as measured by the Shyness Scale, Cheek, 1983) does not, by itself, lead to shyness as self-labeling. Therefore, other distinctions between those who adopt the shyness label (shys) and those who do not (nonshys) need to be considered.

Shys are much more likely than nonshys to report that failure to respond in social settings is a problem for them (Zimbardo, 1977). Two dominant explanations are: a) Shys suffer from social skills deficits (Alden, 1984); and
b) shys experience dysfunctional cognitions which impair performance (Anderson & Arnoult, 1985).

It may be that shy individuals who are aware of normative social behaviors fail to display them either because they are unwilling to act (unwillingness), or because they feel incapable of performing those behaviors (low self-efficacy). The unwillingness hypothesis suggests that shys merely choose to be less demonstrative, and the low self-efficacy hypothesis maintains that shys feel incapable of enacting behaviors in social contexts.

The possibility that shys have sufficient social skills knowledge and deliberately choose not to act seems unlikely, given findings that over 80% of self-labeled shys dislike being shy (Zimbardo, 1977). Also, a study by Hill (1989) provided support for the low self-efficacy hypothesis. In that study the authors found that self-efficacy expectations of shys were significantly lower than nonshys in 21 of 25 statements on the “Developing Social Skills” workbook (Zimbardo, 1977). The author stated that the low self-efficacy hypothesis received strong support, while the unwillingness hypothesis received weak support.

As noted earlier, some studies (Hamer & Bruch, 1997; Phillips & Bruch, 1988) have indicated that career development difficulties arise for shy students as compared to nonshys. These difficulties included: difficulty formulating a coherent vocational self-concept, difficulty with career decision-making, acquiring jobs in social fields, and vocational immaturity. According to Hamer and Bruch,
career counselors would be wise to assess clients for shyness and plan
treatment strategies accordingly.

Social Anxiety

Anxiety is a multifaceted response to threatening situations (Leary, 1991).
It is characterized by cognitive apprehension, neuropsychological arousal, and a
subjective experience of tension or nervousness. People may experience
anxiety for a number of reasons, but social anxiety is one of the most common
encountered (Bates, 1971). Over the past 30 years, a great deal of research has
been directed at the causes of socially based anxiety, as well as behavioral
concomitants and implications for the socially anxious individual (for reviews see
Jones, Cheek, & Briggs, 1986; Leary 1983, and Zimbardo, 1977). This research
has indicated that feelings of social inadequacy play a central role in many
psychological phenomena.

It would appear that an understanding of social anxiety should be
especially important to the study suggested herein since it is the theoretical
antithesis of social self-efficacy. That is, according to Bandura (1977, 1986)
anxiety has an inverse correlation with an individual's perceived level of self-
efficacy. This concept has been supported by research (Betz & Hackett, 1981,
1983; Lopez & Lent, 1992; Anderson, 1996)

In one study (Clark & Arkowitz, 1975) male subjects were administered
the Social Avoidance and Distress Scale (Watson & Friend, 1969) and separated
into socially anxious and socially non-anxious groups. They then participated in
two brief social interactions with two undergraduate females. Subjects had to rate their performance on the social interactions and were also rated by a judge (behind a one-way mirror) who did not know which group they were in (anxious or non-anxious).

Results indicated that the socially non-anxious subject's self-ratings on performance were equal to or higher than their judges' ratings, while socially anxious subjects rated themselves lower on social performance than did judges. The results of this study and others (Arkowitz, Liechtenstein, McGovern, & Hines, 1975; Brovec, Stone, O'Brien, & Kaloupek, 1974; Rehm & Merston, 1968) suggest that both high and low socially anxious men may have adequate social skills. However, the level of anxiety shown and avoidance behaviors exhibited by socially anxious men seems to be mediated by their overly negative self-evaluations. Other studies had similar findings (Cacioppo, Glass, and Merluzzi, 1979; Alden, 1987; Fenigstein, 1979). This appears to indicate that those individuals who are socially anxious differ more in their perceptions of social self-efficacy than in their actual social skills, suggesting that an understanding of the relationship between social anxiety and the sources of social self-efficacy might be important to understand.

The results of another study (Wallace & Alden, 1991) indicated that socially non-anxious subjects felt they could meet their own performance standards, as well as those of their social partner. On the other hand, the socially anxious subjects felt they could meet their own performance standards,
but not those of their social partners. Social anxiety and avoidance for those individuals seemed to escalate when they were motivated to impress others, but had doubts about their ability to project an image of themselves which would achieve the desired impression. It should be noted here that avoidance is a hypothesized outcome (the right side of Figure 1) of a low level of self-efficacy in a given domain, as hypothesized by Bandura (1977, 1986). Hence, the aforementioned study made it seem even important that social anxiety be included in this dissertation.

Wallace and Alden (1991) also noted that socially anxious subjects engaged in negative self-statements such as, "I doubt my ability to behave in a manner that others will judge acceptable." Leary and Atherton (1986) have reported similar results. Since these negative self-statements would appear to be typical of individuals with a low sense of social self-efficacy, once again an understanding of the relationship between SSS and social anxiety is indicated.

Social Skills

Social skills is a construct that has been studied in the career domain. A study by Wampold, Ankario, Mondin, Trinidad-Carillo, Baumler, and Prater (1995) hypothesized that there are two kinds of social skills that people develop. The first type of social skill is called social-coping social skills. The authors defined those skills as one's needed to build and maintain social support networks. The other type of social skills, noted the authors, are labeled problem-focused social skills. As the title suggests these are skills people use in their
jobs in order to accomplish tasks. In this study, the authors hypothesized that individuals who scored as Social types on their Holland theme (see figure 2) would possess the highest level of social-coping social skills. The authors also predicted that the greater the Euclidean distance from the Social theme (with Realistic being the farthest) the lower would be that group’s scores on the social-coping social skills measures. Both predictions were corroborated by the data collected in that study.

The authors felt that this evidence indicated that social skills can have an impact upon an individual’s career choice. They noted the following example. A social person, comfortable and skilled in emotional expressivity, enters an environment populated by realistic types. For the social type there are cues in the environment that signal the need to express and be sensitive to emotional states; these cues might be related to some interpersonal conflict. In response to those cues, the social type would likely express emotion and expect the others to reciprocate. Attempts to elicit emotional reciprocity would be unusual in the realistic environment and would likely be met with resistance, signaling that emotional responding is unwelcome, thus affecting the satisfaction of the social type. Moreover, attempts would be made to manipulate the behavior of the outperson, thus increasing the dissatisfaction of the social type. The authors stated that the data from their study may suggest that the type of social skills an individual possesses may help influence that individual’s career decision-making.
progress. Since it appears that social skills are important to career development, it was decided to include this construct in this study.

The Advantage of Social Self-efficacy as a Construct

Although, there has been previous work on social anxiety and related constructs, the concept of social self-efficacy expectations has an advantage over those (social anxiety, shyness, and social skills) of being embedded within Bandura’s theory. Not only does it predict the behavioral consequences of low versus high social confidence, but it helps us to formulate hypotheses about the development of social self-efficacy (refer to the left side of Figure 1) and understanding development can imply interventions.

However, while an understanding of the construct of social self-efficacy may prove useful, it may be even more useful to understand where that self-efficacy comes from, that is, its sources. If we know that information about an individual we are not left to guess which source may be the weak link in the development of low perceived social self-efficacy. It could be indicated by a scale that measured those sources. Accordingly, a review of literature on the sources of perceived self-efficacy is in order.

Research on the Sources of Perceived Self-Efficacy

Many studies have shown that measuring levels of self-efficacy is important to predicting behavior outcomes (e.g., Bandura, 1977, 1986; Betz & Hackett, 1983; Hill, 1983). Still others have sought to measure self-efficacy in specific, as well as general, domains, but it is believed that no studies have
sought to measure the sources of social self-efficacy besides Anderson (1996) and Anderson & Betz (1997). Yet, it has been suggested that the postulated sources of self-efficacy provide a useful framework for the design of counseling interventions (Taylor & Betz, 1983, Betz, 1992).

In order to gain insight into how one would study sources of self-efficacy it would be useful to review research on the sources of self-efficacy in other domains. Good examples of such research exist in the domain of math self-efficacy. Lent, Lopez, and Bieschke (1991) explored the antecedents of mathematics self-efficacy. In that study the authors designed a 40-item instrument called the Sources of Math Self-Efficacy Scale (SMES). The instrument consisted of four 10-item scales corresponding to the four sources of efficacy postulated by Bandura (1977); performance accomplishments (e.g., I received good grades in my high school math classes."), vicarious learning (e.g., My favorite teachers were usually math teachers."), emotional arousal (e.g., "I get really uptight while taking math tests."), and verbal persuasion (e.g., "My friends have discouraged me from taking math classes."). The authors utilized a mathematics self-efficacy index which was a modified version of Betz and Hackett's (1983) Mathematics Self-Efficacy College Courses Scale to measure the mathematics self-efficacy of their subjects.

The results also generally supported the hypothesized relations of the four sources to the development of math self-efficacy. As other studies have shown, performance accomplishments seemed to constitute the most influential source
of efficacy information (Hackett, 1985; Lapan et al., 1989; Matsui et al., 1990). Also, the four scales were significantly and (with the exception of the vicarious learning scale) substantially interrelated. It is noteworthy that the regression analysis performed in the study did not support the incremental utility of vicarious learning, verbal persuasion, and emotional arousal scales over that provided by past performances in predicting math self-efficacy. The authors suggested that multicollinearity among the sources may have attenuated the predictive value of those three variables. The authors also suggested that as implied by Bandura (1986) other source variables may be important largely to the extent that individuals lack more direct (i.e., past performance) knowledge of their capabilities.

The authors also speculated, based on correlation sizes, that direct experience (i.e., performance accomplishments, emotional arousal, and verbal persuasion) appears to have a more significant role in the development of math self-efficacy than does indirect experience (i.e., vicarious learning).

In a follow-up study, Lopez and Lent (1992) examined the relationship between the four sources of efficacy information and math self-efficacy in a high school sample. Again, the authors utilized the SMES to measure performance accomplishments, vicarious learning, emotional arousal, and verbal persuasion as related to mathematics self-efficacy. The Math Self-Efficacy Scale was used to assess the subjects confidence in their mathematics abilities. Results indicated that previous math grades and perceived performance
accomplishments each accounted for substantial portions of variance in self-efficacy; of the three remaining sources, only emotional arousal contributed significantly to variance. The authors stated that failure experiences and untoward anxiety may significantly diminish students' confidence in their current math course work, and their interest and motivation to enroll in additional math classes.

A study by Matsui, Matsui, and Ohnishi (1990) in Japan provided similar results. In that study, stepwise regression indicated that the four sources of efficacy information contributed to the development of math self-efficacy with past performance being the strongest contributor and verbal persuasion being the weakest. For that study the authors developed a fifteen-question measure of the sources of mathematics self-efficacy which measured vicarious learning, emotional arousal, and verbal persuasion on a five-point Likert scale. Performance accomplishments was measured by asking the students about past grades in mathematics classes.

**Measuring the Antecedents of Social Self-efficacy**

The study proposed herein is directed toward exploring the antecedents of social self-efficacy beliefs. It is hoped that increased knowledge about how people develop their perceived levels of social self-efficacy might suggest interventions to increase their social self confidence. This might help to prevent situations described above wherein individuals are blocked from career paths
which might be a congruent fit for them by low levels of perceived social self-efficacy.

Also, although not the focus of this study, the author is also interested in studying the sources of social self-efficacy because it could suggest interventions in mental health counseling. Some studies have indicated that perceived ability in social situations may be important in the treatment of some forms of mental illness. Many individuals who seek emotional counseling state that they experience high levels of social anxiety in social situations (Schlenker & Leary, 1982). Also, social self-efficacy has been shown to have significant inverse correlations with depression and anxiety (Sherer & Adams, 1983). Finally, a study by McFarlane & Bellissimo (1995) found that high levels of social self-efficacy, as well as social support form family and friends acted as protective factors against the development of depression among adolescents.

Two studies (Anderson, 1996, also Anderson & Betz, 1997) were undertaken in order to develop a method of assessing an individual’s background experiences relative to the four sources of information (performance expectations, vicarious learning, emotional arousal, and verbal persuasion) postulated by Bandura (1977) to be necessary for the development of strong expectations of self-efficacy, in particular, expectations of self-efficacy with respect to social behaviors.

These background sources could be assessed in order to provide suggestions for interventions for counselors of individuals with low social self-
efficacy. For instance, if an individual were experiencing difficulty in social situations, and they also scored low on a measure of verbal persuasion, the counselor might provide encouragement to that individual as a means of increasing his/her perceived social self-efficacy.

In order to measure those sources an instrument entitled the Social Sources Scale (SSS) was developed as a part of that research. Twenty-eight items reflecting the four sources of efficacy information (twelve for past performance, four for vicarious learning, six for emotional arousal, and six for verbal persuasion) were written and administered to a pilot sample of 10 and a development sample of 235 college students.

The instrument developed as a part of that research (the Social Sources Scale) appeared to achieve that goal in some respects, but fell short in others. It appears that only the verbal persuasion scale is an adequate measure of the sources of social self-efficacy. That scale showed adequate internal consistency reliability (.73), adequate criterion validity (see Figure 3) and adequate discriminant validity when compared to divergent constructs (like the Realistic theme of the Holland Code).

It was also evident from that research that the performance accomplishments, emotional arousal, and vicarious learning scales needed improvement. The alphas for those scales were .56, .63 and .49 respectively. Although the emotional arousal scale showed adequate criterion and
discriminant validity, the other two scales (performance accomplishments and verbal persuasion) did not (See Figure 3).

Anderson's (1996) results, together with similar findings in the mathematics domain (e.g., Lent, et al. 1991) support the design of counseling/educational interventions that provide individuals who are unrealistically low in social self-efficacy with systematically structured mastery experiences in social situations, opportunities to observe socially adept individuals, interventions designed to reduce social anxiety, along with encouragement to make internal attributions for their successes.

Suggestions for further research

Suggestions for further research were indicated by the aforementioned thesis. While that research provided a step towards the development of a reliable and valid measurement of the sources of social self-efficacy, improvements are needed. More work can be done to improve the internal consistency reliability of the performance accomplishments, emotional arousal, and vicarious learning scales of the SSS. At present, the SSS would not be considered reliable enough to use in further research or counseling settings. Of particular concern is the alpha on the Performance Accomplishments scale (.56). Since that scale has the most questions of all of the scales (12), one would expect it to have higher internal consistency reliability than a scale with fewer questions, but that was not the case in Anderson (1996).
One possible problem with that scale has been identified. Several of the questions on that scale appear to offset each other; for instance, the questions "I was active in team sports.", and "I have worked as a volunteer." It may be difficult for an 18-year-old to have done both of those since both activities compete for a student's time. If a subject answered "yes" to one of those questions, and "no" to another this could possibly lower the alpha for that scale. Also, since Bandura has stated that performance accomplishments play a larger role in the development of self-efficacy than any of the other sources it is critically important that that scale have a high alpha.

It was also disappointing that the Vicarious Learning Scale faired so poorly on reliability and validity measures. One factor contributing to these low scores is the small number of questions on that scale (4). Lower reliability is expected from subscales with fewer items, but this alpha (.49) needs improvement.

Suggestions for improving the reliability and validity of these three scales would be to eliminate the "offsetting" questions from the performance accomplishments scale, adding questions to the vicarious learning and emotional arousal scales, and rewording some of the questions to improve reliability.

In sum, although an initial attempt to measure the sources of social self-efficacy has been made, more research is needed. The program of research to
be pursued will be designed to refine and elaborate on the work of Anderson (1996). Thus, the purposes of the next study will be as follows:

1) to attempt to improve the internal consistency reliability of the performance accomplishments, vicarious learning, emotional arousal, and verbal persuasion subscales of the SSS.

2) to further investigate the construct validity of the SSS and, simultaneously, the validity of Bandura's postulates regarding the initial development of self-efficacy expectations; and,

3) to investigate some of the consequences of perceived social self-efficacy. Specifically, this study will investigate the relationship of a given level of social self-efficacy to measures of career direction, depression, social anxiety, shyness, and social risk-taking.
CHAPTER 3

METHOD

Participants

Participants were 250 undergraduate psychology students from a large midwestern university. Of the total subjects, 83% were freshmen, 12% were sophomores, 3% were Juniors, 1% were seniors, and 1% were in the “other” category. Eighty-two percent of the participants were Caucasian, 6% were Asian American, 4% were African Americans, 3% were International Students, 2% were Hispanic, and 3% listed “other” as their race. Sixty-six percent (N = 166) of the participants were female. Participation in this study was voluntary in the sense that students had a wide variety of psychological experiments from which to choose. Students received course credit for their participation. Participants were recruited using a sign-up sheet which described the time, place, and nature of the study.
Instruments

Sources of Social Self-Efficacy

The sources of social self-efficacy was measured by the Social Sources Scale (SSS), developed by Anderson (1996) and revised as a part of this study. A copy of the original SSS is contained in Appendix B. A copy of the revised SSS is contained in Appendix A. The SSS was developed to measure the four sources of social self-efficacy (performance accomplishments, vicarious learning, emotional arousal, and verbal persuasion).

Originally, the SSS contained only 28 items. As suggested in Anderson (1996), it was decided to revise that scale as a part of this study because its reliability was inadequate (alpha = .79). Review of the original scale also indicated some weaknesses in design. Several of the items on that scale (such as “I was active in team sports.”, and “I have worked as a volunteer.”) were answered “yes” or “no” while most of the questions on the SSS were answered using a 5-point Likert scale. It was determined that having binomial and continuous variables in the same instrument was unwise because it made scoring difficult. Thus, it was determined that all items on the revised SSS would be scored using a Likert scale.

More importantly, as can be seen from the two items listed above, some of the items on the original SSS counteracted one another. That is, one would generally assume a limit to how many extracurricular activities a young person
could be involved in. Involvement in all of the extracurricular activities sampled by the items would be practically impossible. Therefore, involvement in any one or several activities would logically reduce the likelihood of being involved in others. In these cases an individual could score low on one question and high on another even though both might contribute to the development of that individual’s social self-efficacy. Problems like this would, of course, lower the alpha for that scale.

Another problem with the original SSS was that some scales contained too few items to provide an adequate alpha. For example, the Vicarious Learning Scale had only four questions and had an alpha of .49. After reviewing existing literature (eg., Betz et al., 1996) it was determined that each scale of the SSS should have ten items. To accomplish this objective, 12-item subscales were developed and administered to research participants so that item analysis could be done. Based on these analyses, the 10 best items, as defined by highest item-total subscale correlations, were selected for each subscale. Ranges of item-total correlations for items selected for the SSS were as follows: Performance Accomplishments (.30 - .65), Vicarious Learning (.33 - .65), Emotional Arousal (.53 - .81), and Verbal Persuasion (.43 - .67). Ranges of item-total correlations for items deleted from the SSS were as follows: Performance Accomplishments (.09 - .26), Vicarious Learning (.22 - .29), Emotional Arousal (.17 - .45), and Verbal Persuasion (.12 - .37).
Finally, and perhaps most importantly, it was determined that examining an existing measure of the sources of self-efficacy in another behavior domain would be helpful to the development of a revised SSS. The work of Lent, Lopez, and Bieschke (1991) on the sources of math self-efficacy was chosen because the alpha on that scale was .92. Several of the questions on the revised SSS were modeled after those developed by Lent et al. for their Sources of Math Self-Efficacy Scale.

Responses were obtained for the SSS on a five point Likert Scale ranging from 1, “strongly disagree” to 5, “strongly agree”. Examples of items used on the SSS are as follows: performance accomplishments, “I always had a lot of friends.”; vicarious learning, “People have told me that I was easy to talk to.”; emotional arousal, “Making new friends always made me nervous.”; and verbal persuasion, “My peers told me I was skilled in social situations.”

Some of the items were worded so that an affirmative response indicated a high level of social self-efficacy, and some were worded so that an affirmative response indicated a low level of social self-efficacy, that is, were negatively worded. The total score was obtained by reverse-scoring the negatively worded items and then summing the item scores. Thus, scores could range from 40 to 200.

Internal consistency reliability for the total score was .94. Alphas for individual scales were as follows: .80 (Performance Accomplishments), .77 (Vicarious Learning), .91 (Emotional Arousal), .87 (Verbal Persuasion).
Criterion-Related Validity:

Measures of Social Self-Efficacy

**Social Scale of the Self-Efficacy Scale.** Self-efficacy with respect to social behaviors was assessed using the social self-efficacy subscale of the Self-Efficacy Scale (Sherer & Maddux, 1982). The Self-Efficacy Scale consists of 23 questions, of which the social self-efficacy subscale has seven items. Three of the items are reverse-scored. All seven items are scored on a five point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5) (e.g., “I have acquired my friends through my ability to make friends.”) The total score is obtained by reversing the scoring direction of the negatively worded items and then summing scores across the seven items. Thus, the maximum score on the social subscale is 35, and the minimum score is 7.

Internal consistency reliability for the social subscale of the Self-efficacy Scale was reported to be .71 (Sherer & Maddux, 1982).

**Social Scale of the Skills Confidence Inventory.** The second measure of social self-efficacy was obtained from the Skills Confidence Inventory (SCI) (Betz et al., 1996). The SCI was developed to measure the subject’s self-efficacy on each of the six Holland Themes. Self-efficacy for each theme is measured by 10 activity, task, or school subject items, resulting in a total of 60 items. For each item, such as “act in a play”, or “build a doll house”, the respondent indicates his/her degree of confidence in his/her ability to complete the task. Responses
are obtained on a Likert scale from "no confidence at all" (1) to "complete confidence" (5). The Social Scale of the SCI was used as a criterion measure in this study. Examples of activities and school subject items for the social theme are as follows: meet new people, and counseling methods, respectively.

Confidence scores for the Social Holland theme are obtained by averaging the scores across the ten items comprising that subscale. Confidence scores can range from 1 to 5.

In development the SCI was administered to a student sample (706 subjects) and an employed adult sample (1147 subjects) (Betz et al., 1996). The subscales of the SCI are reported to have adequate internal consistency reliability (coefficient alpha) ranging from .84 to .87 in the student sample and .84 to .88 in the employed adult sample. Within this range, the Enterprising scale had the lowest alpha in both samples, and the Realistic scale had the highest alpha in both samples.

Some validity information was available from comparisons of the scores of employed adults versus college students. As hypothesized, the former group reported significantly higher confidence scores than did the latter group. Also providing evidence for construct validity were statistically significant and moderately sized correlations (.39 to .74) between interest and confidence for the student sample with respect to the same Holland theme (e.g., Social theme), and low correlations (-.18 to .28) between interests and confidence in disparate themes (e.g., Social and Realistic themes) (Betz et al., 1996).
For the sake of clarity, the variable measured by the social scale of the SES will be referred to herein as social self-efficacy, and the variable measured by the social scale of the SCI will be referred to as social self-confidence.

**Construct Validity**

**Artistic and Enterprising Scales on the Skills Confidence Inventory.**

Since the conceptualization of social self-efficacy and its sources was based on Holland’s theory, part of the construct validation process of involved examination of the degree to which the SSS was differentially related to self-efficacy, or confidence, with respect to the other Holland themes. Specifically, it was postulated that the SSS would be more closely related to confidence with respect to the themes hexagonally adjacent to Social, that is Artistic and Enterprising, than to nonadjacent themes of Realistic, Investigative, and Conventional.

Holland General Occupational Themes adjacent to the Social theme (Artistic and Enterprising) have been shown to have moderate correlations with the Social theme (.33 and .42, respectively) (Harmon et al., 1994). Therefore, correlations between SSS scores and these two themes on the SCI will be used to provide construct validity for the SSS.

Examples of activities and school subjects items for the Enterprising and Artistic themes are as follows: sell a product for a customer, public speaking (E); design sets for a play, art (A).
Discriminant Validity

Investigative, Realistic, and Conventional Scales on the Skills Confidence Inventory. Holland's General Occupational Themes nonadjacent to the Social theme (Conventional, Realistic, and Investigative) have been shown to have smaller correlations with the Social theme than for those with adjacent themes (.27, .06, and .12, respectively) (Harmon et al., 1994). Therefore, correlations between SSS scores and these three themes will be used to provide discriminant validity for the SSS.

Examples of activities and school subjects items for the Realistic, Investigative, and Conventional themes are as follows: build a doll house, industrial arts (R); perform a scientific experiment, calculus (I); organize systems for filing information, accounting (C).

Consequences of Social Self-efficacy

Social risk taking. The Social Scale of the Attitudes Towards Risk Scale (Weber, 1997) was used to assess attitudes towards social risk taking. This recently developed scale consists of seven items designed to measure an individual's attitude towards taking risks in social situations. Item responses are obtained using a six point scale ranging from strongly disagree (-3) to strongly agree (3). Examples of items are, "In interpersonal relationships you often have to take some risks to make it all worthwhile", and "In dealing with friends and family members, I tend to take some risks if there is a reason to speak my mind."
rather than play it safe all the time"). Some of the questions are worded so that an "agree response" indicated a positive attitude towards risk taking, and some are worded so that an "agree response" indicated a negative attitude towards risk taking. The total score is obtained by reverse keying the negatively worded items and then summing the item scores. Thus, scores may range from -21 to 21. Higher scores indicate an attitude that favors risk-taking.

Internal consistency reliability for the Social Scale of the Attitudes Towards Risk Scale, obtained as a part of this study, was .51. This level of alpha is below the minimum of .70 suggested by psychometricians (e.g., Nunnally & Bernstein, 1994, p. 265) for use in research. When alpha is very low, one concludes either the test is too short or the items have very little in common. Although seven items is not a large number, there are certainly many seven (or fewer) item scales having respectable levels of alpha. Thus, results concerning the Social Risk Taking Scale of the Attitudes Toward Risk Scale should be considered cautiously.

**Depression.** The Beck Depression Inventory (BDI) was used to measure depression. The BDI is a self-report inventory of depression originally designed for use in psychiatric populations (Bumberry, Oliver, & McClure, 1978). It consists of 21 items that cover affective, cognitive, motivational, and physiological symptoms of depression.

Each item on the BDI contains four sentences. The respondent is asked to select the item that best describes the way they have been feeling the past
week, including today. These depression severity for each answer ranges from 0 (least severe) to 3 (most severe). For example, 1) I do not feel sad, 2) I feel sad, 3) I am sad all the time and I can’t snap out of it, and 4) I am so sad or unhappy that I can’t stand it.

Scores for all items are summed to arrive at a total score. Thus, the possible scores on the BDI range from 0 to 63. High scores are indicative of greater levels of depression.

According to Beck and Steer (1987) the BDI showed an alpha of .86 in a meta-analysis of nine psychiatric samples, and .81 in for fifteen nonpsychiatric samples. Therefore, the BDI has high internal consistency reliability for both clinical and non-clinical populations.

The BDI also appears to be a valid instrument. Studies have shown (Beck and Steer, 1987) that the BDI can discriminate between Dysthymic and Major Depressive Disorders and has also been shown to differentiate between Generalized Anxiety Disorder and Major Depressive Disorders. Also, BDI scores for individuals diagnosed with Major Depression and Dysthymic Disorder show high correlations (.63 - .65) with the Hopelessness Scale (Beck & Steer, 1987). This provides additional construct validity since hopelessness is hypothesized to be associated with depression (Beck & Steer, 1987).

*Shyness.* The original Shyness Scale (Cheek & Buss, 1981) consisted of nine items, but a 13 item revision (Cheek, 1983) has received increasing use. That revision was used in this study. The scale is answered on a five point Likert
scale ranging from 1 (very uncharacteristic or untrue) to 5 (extremely characteristic or true). Examples of items are, "I feel tense when I'm with people I don't know well.", and "I do not find it hard to talk to strangers." Scale scores are obtained by reverse scoring four items and summing all responses. Thus, scale scores range from 13 to 65, where higher scores indicate a high level of shyness.

Using the original nine-item scale (with responses from 0 to 4), the original sample (n=912) had a mean of 14.6 (SD = 5.8). The 13-item scale (scored 1-5) has a mean of 33.3 for college men and 32.4 for college women.

Cronbach's alpha for the scale is .90 (Jones, Briggs, & Smith, 1986). The 45-day test-retest reliability is .88 (Jones et al., 1986). Scores on the Shyness Scale correlate highly with other measures of shyness and social anxiety as follows: Social Avoidance and Distress, .77; Interaction Anxiousness, .86; social Reticence, .79 (Jones et al., 1986).

Social Anxiety. The Social Anxiety Subscale of the Self-Consciousness Scale (SASSCS) consists of six items that reflect not only social reticence, but also performance difficulties (Leary, 1986). The six situations described in the items include new situations, being observed, embarrassing events, and large groups. An example of an item on this scale is "I have trouble working when someone is watching me".

Responses were obtained on a three-point scale from 1, "a little like me", to 2, "somewhat like me", to 3, "a lot like me". Five of the questions are worded
so that an affirmative response indicated a high level of social anxiety, but one question (4) was worded so that an affirmative response indicated a low level of social anxiety. The total score was obtained by reverse scoring question four and then summing the item scores. Thus, scores could range from 6 to 18. High scores indicate high levels of social anxiety.

Cronbach's alpha for the scale is .70, adequate for a scale with so few items (Leary, 1986). Two-week test-retest reliability is .73. Convergent validity is evidenced by significant correlations with the Interaction Anxiousness Scale (.78), test anxiety (.23), and self esteem (-.35) (Turner, Scheier, Carver, & Ickes, 1978). Evidence for discriminant validity was provided by a negative (-.23) correlation with the Marlowe-Crowne Social Desirability Scale (Turner et al., 1978).

Procedure

The nature of the study was explained to the respondents. They were assured that their anonymity would be maintained by assigning identification numbers, not names, to each answer sheet. The instruments were administered in the following order: Social Sources Scale, Skills Confidence Inventory, the social subscale of the Self-Efficacy Scale (SSSES), the social anxiety subscale of the Self-Consciousness Scale, Shyness Scale, and the Beck Depression Inventory.
The SSS was administered first because it forms the major conceptual focus of this research. Since this research is a study of the sources of social self-efficacy, measures of social self-efficacy (criterion measures) were administered next (the SCI and the SSES). Outcome measures were administered last (Social Risk Taking, Social Anxiety, Shyness Scale, and the BDI). A debriefing statement (See Appendix B.) was distributed to all subjects upon completion of the instruments describing the nature and purpose of the research and providing counseling referrals should any of the participants need such assistance.

Data Analysis

Means, standard deviations, and gender comparisons (using t-tests) were calculated for all variables measured herein. Internal consistency reliability (coefficient alpha) was calculated for all scales.

Correlational analysis was used to examine theoretical relationships based on Bandura's (1977) theory of the development of self-efficacy expectations (refer to Figure 1). Since Bandura postulated that current levels of self-efficacy are related to background experiences with the four sources of efficacy information, statistically significant, moderately sized correlations between each SSS subscale and a) social self-efficacy, and b) social confidence were expected. In addition, the total score of the SSS was expected to be significantly correlated with social self-efficacy and social self-confidence.
Correlational analysis was used to examine theoretical relationships with self-efficacy outcome measures. Since these measures (the BDI, the social scale of the Social Scale of the Attitude Toward Risk Scale, the social anxiety subscale of the Social Self-Consciousness Scale, and the Shyness Scale) are also theoretically related to the sources of social self-efficacy, statistically significant, moderately sized correlations between each SSS subscale and these measures were expected. Also, since the emotional arousal subscale of the SSS is a measure of social anxiety, correlations between that subscale and scores on the social anxiety subscale of the Social Self-Consciousness Scale were expected.

It should be noted, however, that these outcome measures are further removed, theoretically, from the sources of social self-efficacy than are the aforementioned self-efficacy measures (SCI and SES). Thus, correlations between the SSS subscales and outcome measures (BDI, Shyness Scale, SSATRS) were expected to be slightly lower than for those with self-efficacy measures (SCI, SES).

Third, scores on the SSS are postulated to be related to confidence on hexagonally adjacent (related) Holland themes. Thus the correlations of the SSS subscale scores with Artistic Confidence and Enterprising Confidence are expected to be higher than those with Holland Confidence themes farther (Euclidean distance) from the Social theme (Investigative, Conventional, and
Realistic). These latter relationships will be used to examine discriminant validity.
CHAPTER 4

RESULTS

The number of items and coefficient alpha reliabilities for each subscale of the SSS are provided in Table 1. Individual scale reliabilities are as follows: past performance, .79; vicarious learning, .76; emotional arousal, .91; verbal persuasion, .86. The alpha for the entire scale is .94.

Table 2 contains descriptive information (sample sizes, percents, means, and standard deviations) for all demographic variables. Analyses of variance were used to examine whether demographic variables (see SSS in Appendix A) were related to scores on the SSS total scale. Results of these analyses indicated significant differences (p < .05) between Caucasians and Asian Americans (means of 3.79 and 3.38, respectively), although the means of African Americans (3.74), Hispanics (3.51), and International students (3.51) did not differ from the means of other groups. Females reported significantly higher (p < .001) scores than did males (means of 3.83 and 3.58, respectively). Those who had chosen a career reported significantly higher (p < .001) SSS scores (3.90) than those who either hadn’t chosen a career (3.69), or weren’t sure
<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of items</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Accomplishments</td>
<td>10</td>
<td>0.80</td>
</tr>
<tr>
<td>Vicarious Learning</td>
<td>10</td>
<td>0.77</td>
</tr>
<tr>
<td>Emotional Arousal</td>
<td>10</td>
<td>0.91</td>
</tr>
<tr>
<td>Verbal persuasion</td>
<td>10</td>
<td>0.87</td>
</tr>
<tr>
<td>Total SSS</td>
<td>40</td>
<td>0.94</td>
</tr>
</tbody>
</table>

(N=250)

Table 1

Values of Coefficient Alpha Reliabilities for the Social Sources Scale
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>9</td>
<td>3.6</td>
<td>3.74</td>
<td>0.37</td>
</tr>
<tr>
<td>Caucasian</td>
<td>204</td>
<td>81.8</td>
<td>3.79 *</td>
<td>0.52</td>
</tr>
<tr>
<td>Asian American</td>
<td>16</td>
<td>6.5</td>
<td>3.38 *</td>
<td>0.56</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4</td>
<td>1.7</td>
<td>3.79</td>
<td>0.64</td>
</tr>
<tr>
<td>American Indian</td>
<td>0</td>
<td>0</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>International Students</td>
<td>8</td>
<td>3.2</td>
<td>3.51</td>
<td>0.34</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>3.2</td>
<td>3.75</td>
<td>0.35</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>166</td>
<td>66.7</td>
<td>3.83 ***</td>
<td>0.51</td>
</tr>
<tr>
<td>Males</td>
<td>83</td>
<td>33.3</td>
<td>3.58 ***</td>
<td>0.48</td>
</tr>
<tr>
<td><strong>Career Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chose a career</td>
<td>101</td>
<td>40.5</td>
<td>3.90 ***</td>
<td>0.48</td>
</tr>
<tr>
<td>Haven't chosen</td>
<td>84</td>
<td>33.7</td>
<td>3.69 ***</td>
<td>0.51</td>
</tr>
<tr>
<td>Aren't sure</td>
<td>64</td>
<td>25.8</td>
<td>3.59 ***</td>
<td>0.51</td>
</tr>
<tr>
<td><strong>Major Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chose a major</td>
<td>150</td>
<td>60.3</td>
<td>3.76</td>
<td>0.51</td>
</tr>
<tr>
<td>Haven't chosen</td>
<td>61</td>
<td>24.7</td>
<td>3.78</td>
<td>0.51</td>
</tr>
<tr>
<td>Aren't sure</td>
<td>37</td>
<td>15.0</td>
<td>3.65</td>
<td>0.56</td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>208</td>
<td>83.4</td>
<td>3.79 **</td>
<td>0.50</td>
</tr>
<tr>
<td>Sophomore</td>
<td>29</td>
<td>11.8</td>
<td>3.45 **</td>
<td>0.55</td>
</tr>
<tr>
<td>Junior</td>
<td>7</td>
<td>3.1</td>
<td>3.93</td>
<td>0.42</td>
</tr>
<tr>
<td>Senior</td>
<td>1</td>
<td>0.5</td>
<td>3.04</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1.4</td>
<td>3.87</td>
<td>0.36</td>
</tr>
</tbody>
</table>

(a) Note: Asterisks indicate significance of F statistics.

* p < .05
** p < .01
*** p < .001

**Table 2**

Frequencies, Percentages, Means and Standard Deviations on the Total Social Sources Scale for each Demographic Variable
(3.59). There were no significant differences in total SSS scores for those who
had chosen a major, those who hadn’t, and those who weren’t sure. Within
grade, there was a significant difference (p < .01) between average SSS scores
for freshmen (3.79) and sophomores (3.45), however, there was no significance
between the average scores of juniors (3.93), seniors (3.04), “other” students
(3.87) and those of other groups. It is possible that these differences were not
significant due to small sample sizes.

Table 3 provides means, standard deviations, and t-tests of gender
comparisons for scores of the SSS, the SCI, and the social scale of the SES.
For the SSS the means of both genders tended to fall between a “neutral”
response (3), and “agree somewhat” (4). Average subscale scores ranged from
3.41 (males) and 3.65 (females) for past performance to 3.63 and 3.96,
respectively, for verbal persuasion. The differences in means were significantly
higher in females for the past performance (p < .01), vicarious learning (p < .001),
and verbal persuasion scales (p < .001) and for total SSS scores (p < .001).

The means for both genders on the SCI tended to fall between “moderate
confidence” (3), and “much confidence” (4). Scores ranged from 3.33 (artistic) to
3.62 (social) for males, and from 3.23 (realistic) to 3.92 (social) for females.
Females had significantly higher average scores than males on the social scale
(p < .01), and males had significantly higher average scores on the conventional
(p < .01) and realistic (p < .01) scales. The means on the social scale of the
SES tended to fall between a “neutral” response (3), and “moderately agree” (4).
<table>
<thead>
<tr>
<th>Scale</th>
<th>Males (N=83)</th>
<th>Females (N=166)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Social Sources Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past Performance</td>
<td>3.41</td>
<td>0.55</td>
<td>3.65</td>
</tr>
<tr>
<td>Vicarious Learning</td>
<td>3.59</td>
<td>0.48</td>
<td>3.96</td>
</tr>
<tr>
<td>Emotional Arousal</td>
<td>3.57</td>
<td>0.75</td>
<td>3.75</td>
</tr>
<tr>
<td>Verbal Persuasion</td>
<td>3.63</td>
<td>0.55</td>
<td>3.96</td>
</tr>
<tr>
<td>Total SSS</td>
<td>3.58</td>
<td>0.48</td>
<td>3.83</td>
</tr>
<tr>
<td>Skills Confidence Inventory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>3.62</td>
<td>0.72</td>
<td>3.92</td>
</tr>
<tr>
<td>Enterprising</td>
<td>3.52</td>
<td>0.72</td>
<td>3.48</td>
</tr>
<tr>
<td>Artistic</td>
<td>3.33</td>
<td>0.85</td>
<td>3.37</td>
</tr>
<tr>
<td>Conventional</td>
<td>3.59</td>
<td>0.78</td>
<td>3.28</td>
</tr>
<tr>
<td>Investigative</td>
<td>3.47</td>
<td>0.75</td>
<td>3.30</td>
</tr>
<tr>
<td>Realistic</td>
<td>3.55</td>
<td>0.81</td>
<td>3.23</td>
</tr>
<tr>
<td>Social Scale of the Self-Efficacy Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Self-efficacy</td>
<td>3.55</td>
<td>0.66</td>
<td>3.63</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001

Table 3

Means, Standard Deviations, and Gender Comparisons on the Social Sources Scale (SSS), the Skills Confidence Inventory (SCI) and the Social Scale of the Self-Efficacy Scale
The difference between gender scores (males, 2.16; females, 2.23) was not significant.

Table 4 provides means, standard deviations, and t-tests of gender comparisons in scores for the Social Anxiety Subscale of the Self-Consciousness Scale (SASSCS), the Shyness Scale, the Beck Depression Inventory (BDI), and the Social Scale of the Attitude Toward Risk Scale (SSATRS). As indicated in the table, there were no significant differences between college men and women on any of these measures. For the SASSCS means for both genders tended to fall between “somewhat like me” (2) and “a lot like me” (3). Means were 2.47 (males) and 2.39 (females). For the Shyness Scale the means for both genders tended to fall between “uncharacteristic” (2) and “neutral” (3). Means were 2.47 (males) and 2.39 (females). For the SSATRS the means for males tended to fall between “neutral” (3), and “agree” (4). The means for females tended to fall between “disagree” (2), and “agree” (4). Means were 3.60 (males) and 3.74 (females). On the Beck Depression Inventory means were 3.52 (males) and 3.48 (females,).

The criterion-related validity of the revised SSS was examined in two ways. As has been discussed, the sources of self-efficacy (left side of figure 1), theoretically, lead to the development of self-efficacy. Therefore, it is postulated that a measure of the sources of self-efficacy for a given domain should have high correlations with self-efficacy in that domain (e.g., social self-efficacy). The correlations of the scales of the SSS with social self-efficacy (as measured by
<table>
<thead>
<tr>
<th>Scale</th>
<th>Males (N=83) Mean</th>
<th>SD</th>
<th>Females (N=166) Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Anxiety Subscale of the Self-Consciousness Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Anxiety</td>
<td>2.16</td>
<td>0.51</td>
<td>2.23</td>
<td>0.6</td>
<td>-0.93</td>
</tr>
<tr>
<td>Shyness Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shyness</td>
<td>2.47</td>
<td>0.77</td>
<td>2.39</td>
<td>0.65</td>
<td>0.88</td>
</tr>
<tr>
<td>Attitudes Toward Risk Taking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>3.60</td>
<td>0.55</td>
<td>3.74</td>
<td>0.56</td>
<td>-1.94</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>3.52</td>
<td>0.72</td>
<td>3.48</td>
<td>0.75</td>
<td>0.46</td>
</tr>
</tbody>
</table>

**Table 4**

Means, Standard Deviations, and Gender Comparisons on the Social Anxiety Subscale of the Self-Consciousness Scale, the Shyness Scale, the Attitudes Toward Risk Scale, and the Beck Depression Inventory
the SES), and social confidence (as measured by the SCI) are shown in Table 5. For both genders all of the correlations were statistically significant and moderate to high in magnitude. For females, correlations ranged from .35 (vicarious learning with social confidence) to .70 (past performance with social self-efficacy). For males, correlations ranged from .31 (vicarious learning with social self-efficacy) to .69 (past performance with social self-efficacy).

Table 6 shows correlations of the sources of social self-efficacy to all of the scales of the Skills Confidence Inventory. In interpreting these correlations, values below .20 are not interpreted as practically significant even if a large n (166 in females) may yield statistically significance. A value of r of .15, for example, indicates only 2% shared variance even though it is statistically significant at .05 with an N of 166. The decision to interpret only variables of r equal to or above .20 will also apply to all remaining tables to be presented in this manuscript.

Looking first at the social sources most highly related to the criterion measures (Past Performance, Emotional Arousal, and Verbal Persuasion), Table 6 shows that exposure to the informational sources of social self-efficacy are as highly correlated with Enterprising Confidence (r's between .50 and .74 for Past Performance, Emotional Arousal, and Verbal Persuasion) as they are with Social Confidence (r's between .50 and .66 for the same subscales). Correlations with Vicarious Learning are lower for Enterprising Confidence (.23, .43) just as they are for Social Confidence (.36, .35).
<table>
<thead>
<tr>
<th>Scale</th>
<th>Males (N=83)</th>
<th>Females (N=166)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social Confidence</td>
<td>Social Self-Efficacy</td>
</tr>
<tr>
<td>Past Performance</td>
<td>0.62</td>
<td>0.69</td>
</tr>
<tr>
<td>Vicarious Learning</td>
<td>0.36</td>
<td>0.31</td>
</tr>
<tr>
<td>Emotional Arousal</td>
<td>0.54</td>
<td>0.69</td>
</tr>
<tr>
<td>Verbal persuasion</td>
<td>0.66</td>
<td>0.58</td>
</tr>
<tr>
<td>Total SSS</td>
<td>0.68</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Note: Based on an N of 166 for females, values of .20, and .24 are significant at the .01, and .001 levels, respectively. Although values of .15 are statistically significant at .05, they will not be interpreted as significant herein because they are judged too low in absolute magnitude to be practically meaningful. Based on an N of 83 for males, values of .22, .28, and .35 are significant at the .05, .01, and .001 levels, respectively.

**Table 5**

Correlations between Scales of the SSS and Criterion Scales of Social Confidence (SCI), and Social Self-Efficacy (SES) (by Gender)
## Skills Confidence Inventory Scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Criterion Scale</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social</td>
<td>Enterprising</td>
<td>Artistic</td>
<td>Conventional</td>
<td>Investigative</td>
<td>Realistic</td>
</tr>
<tr>
<td>Past Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.62</td>
<td>0.54</td>
<td>0.23</td>
<td>0.14</td>
<td>0.13</td>
<td>0.30</td>
</tr>
<tr>
<td>females</td>
<td>0.52</td>
<td>0.64</td>
<td>0.26</td>
<td>0.12</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Vicarious Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.36</td>
<td>0.23</td>
<td>0.10</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.12</td>
</tr>
<tr>
<td>females</td>
<td>0.35</td>
<td>0.43</td>
<td>0.11</td>
<td>0.11</td>
<td>0.18</td>
<td>0.17</td>
</tr>
<tr>
<td>Emotional Arousal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.54</td>
<td>0.53</td>
<td>0.22</td>
<td>0.07</td>
<td>0.15</td>
<td>0.31</td>
</tr>
<tr>
<td>females</td>
<td>0.55</td>
<td>0.64</td>
<td>0.31</td>
<td>0.16</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Verbal Persuasion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.66</td>
<td>0.50</td>
<td>0.32</td>
<td>0.03</td>
<td>0.09</td>
<td>0.28</td>
</tr>
<tr>
<td>females</td>
<td>0.50</td>
<td>0.63</td>
<td>0.22</td>
<td>0.10</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Total Social Sources Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.68</td>
<td>0.57</td>
<td>0.28</td>
<td>0.07</td>
<td>0.11</td>
<td>0.32</td>
</tr>
<tr>
<td>females</td>
<td>0.56</td>
<td>0.68</td>
<td>0.27</td>
<td>0.15</td>
<td>0.26</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Note: Based on an N of 166 for females, values of .20, and .24 are significant at the .01, and .001 levels, respectively. Although values of .15 are statistically significant at .05, they will not be interpreted as significant herein because they are judged too low in absolute magnitude to be practically meaningful. Based on an N of 83 for males, values of .22, .28, and .35 are significant at the .05, .01, and .001 levels, respectively.

(N for males = 83) (N for females= 166)

### Table 6
Correlations between Social Sources Scales and Skills Confidence Inventory Scales (by gender)
In contrast, the informational sources of social self-efficacy are much less highly related to other Holland themes: again looking at Performance Accomplishments, Emotional Arousal, and Verbal Persuasion values of \( r \) range from .22 to .33 (Artistic Confidence), .20 to .31 (Realistic Confidence), .09 to .28 (Investigative Confidence), and .03 to .16 (Conventional Confidence). It should also be noted that the correlations with Artistic and Realistic Confidence, and among females, Investigative Confidence are generally statistically significant, while those with Investigative Confidence in males, and with Conventional Confidence in both sexes are primarily nonsignificant. Also, like the relatively low correlations with the criterion measures with vicarious learning, correlations of Artistic, Conventional, Investigative, and Realistic Confidence scales with Vicarious learning are essentially zero.

Thus, although not compared statistically, exposure to the sources of self-efficacy is strongly related to confidence in the Social and Enterprising themes, somewhat less so to confidence in Artistic and Realistic areas, and negligibly related to Investigative and Conventional Confidence.

Table 7 provides the correlations between the SSS, social self-efficacy, social confidence to all outcome measures (social risk-taking, depression, social anxiety, and shyness). As shown in that table, exposure to the background sources of social self-efficacy was related to all four postulated outcomes, but relationships to shyness and social anxiety were strongest in absolute magnitude. And once again there was some suggestion that the vicarious
<table>
<thead>
<tr>
<th>Scale</th>
<th>Social Risk-Taking</th>
<th>Outcome Measures</th>
<th>Social Anxiety</th>
<th>Shyness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.22</td>
<td>-0.22</td>
<td>-0.55</td>
<td>-0.72</td>
</tr>
<tr>
<td>females</td>
<td>0.22</td>
<td>-0.34</td>
<td>-0.55</td>
<td>-0.74</td>
</tr>
<tr>
<td>Vicarious Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.25</td>
<td>-0.27</td>
<td>-0.19</td>
<td>-0.26</td>
</tr>
<tr>
<td>females</td>
<td>0.10</td>
<td>-0.23</td>
<td>-0.36</td>
<td>-0.46</td>
</tr>
<tr>
<td>Emotional Arousal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.24</td>
<td>-0.30</td>
<td>-0.51</td>
<td>-0.85</td>
</tr>
<tr>
<td>females</td>
<td>0.16</td>
<td>-0.27</td>
<td>-0.62</td>
<td>-0.81</td>
</tr>
<tr>
<td>Verbal Persuasion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.16</td>
<td>-0.29</td>
<td>-0.35</td>
<td>-0.57</td>
</tr>
<tr>
<td>females</td>
<td>0.27</td>
<td>-0.17</td>
<td>-0.50</td>
<td>-0.67</td>
</tr>
<tr>
<td>Total Social Sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.27</td>
<td>-0.34</td>
<td>-0.52</td>
<td>-0.80</td>
</tr>
<tr>
<td>females</td>
<td>0.27</td>
<td>-0.29</td>
<td>-0.60</td>
<td>-0.79</td>
</tr>
<tr>
<td>Social Confidence (SCI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.21</td>
<td>-0.33</td>
<td>-0.39</td>
<td>-0.57</td>
</tr>
<tr>
<td>females</td>
<td>0.26</td>
<td>-0.18</td>
<td>-0.45</td>
<td>-0.54</td>
</tr>
<tr>
<td>Social Self-Efficacy (SES)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>males</td>
<td>0.21</td>
<td>-0.30</td>
<td>-0.51</td>
<td>-0.77</td>
</tr>
<tr>
<td>females</td>
<td>0.20</td>
<td>-0.25</td>
<td>-0.58</td>
<td>-0.65</td>
</tr>
</tbody>
</table>

Note: Based on an N of 166 for females, values of .20, and .24 are significant at the .01, and .001 levels, respectively. Although values of .15 are statistically significant at .05, they will not be interpreted as significant herein because they are judged too low in absolute magnitude to be practically meaningful.

Based on an N of 83 for males, values of .22, .28, and .35 are significant at the .05, .01, and .001 levels, respectively.

(N for males = 83) (N for females = 166)

Table 7

Relationships of the Social Sources Scales, Social Self-Efficacy, and Social Confidence to Social Outcome Measures (by gender)
learning subscale was less strongly related to the outcome measures than were the other three sources of efficacy information. For these latter three sources, correlations ranged from -.57 to -.85 with shyness, and from -.35 to -.55 with social anxiety. Correlations ranging from -.17 to -.34 with depression and from .16 to .27 with social risk-taking were smaller in magnitude, though generally statistically significant. The vicarious learning subscale was moderately related to both shyness and depression in both sexes, to social risk-taking in males, and to social anxiety in females.

Table 7 also shows the relationships of the criterion measures of social confidence and social self-efficacy to the outcome measures. As would be expected from Bandura’s theory, the social self-efficacy measures were moderately related to social anxiety and to shyness, and were related at somewhat lower levels to depression and social risk-taking.

Table 8 gives an indication of how each of the SSS scales ranks for reliability, convergent validity, and discriminant validity. It appears that all scales have adequate reliability since they are all higher than .70 (considered adequate by Nunnally & Bernstein, 1994). Also, the SSS appears to show good convergent validity because it has moderate to high correlations with criterion instruments (social self-efficacy and social confidence) as well as one of the adjacent Holland themes (Enterprising) and social risk-taking. Correlations of .30 to .60 are considered moderate in size (Betz & Walsh, 1995).
<table>
<thead>
<tr>
<th>Psychometric Characteristic</th>
<th>Past Performance</th>
<th>Vicarious Learning</th>
<th>Emotional Arousal</th>
<th>Verbal Persuasion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coefficient alpha</td>
<td>0.80</td>
<td>0.77</td>
<td>0.91</td>
<td>0.87</td>
</tr>
<tr>
<td>rank</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Convergent Validity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Self-Efficacy (males)</td>
<td>0.62</td>
<td>0.36</td>
<td>0.54</td>
<td>0.66</td>
</tr>
<tr>
<td>(females)</td>
<td>0.52</td>
<td>0.35</td>
<td>0.55</td>
<td>0.50</td>
</tr>
<tr>
<td>rank</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Social Confidence (males)</td>
<td>0.69</td>
<td>0.31</td>
<td>0.69</td>
<td>0.58</td>
</tr>
<tr>
<td>(females)</td>
<td>0.7</td>
<td>0.46</td>
<td>0.69</td>
<td>0.65</td>
</tr>
<tr>
<td>rank</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>SCI Adjacent Themes (males)</td>
<td>0.37</td>
<td>0.17</td>
<td>0.36</td>
<td>0.41</td>
</tr>
<tr>
<td>(females)</td>
<td>0.45</td>
<td>0.27</td>
<td>0.48</td>
<td>0.43</td>
</tr>
<tr>
<td>rank</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Discriminant Validity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCI Non-Adjacent (males)</td>
<td>0.19</td>
<td>0.04</td>
<td>0.18</td>
<td>0.13</td>
</tr>
<tr>
<td>(females)</td>
<td>0.17</td>
<td>0.15</td>
<td>0.23</td>
<td>0.17</td>
</tr>
<tr>
<td>rank</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Outcome Measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Risk-Taking (males)</td>
<td>0.22</td>
<td>0.25</td>
<td>0.24</td>
<td>0.16</td>
</tr>
<tr>
<td>(females)</td>
<td>0.22</td>
<td>0.10</td>
<td>0.16</td>
<td>0.27</td>
</tr>
<tr>
<td>rank</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(males)</td>
<td>-0.22</td>
<td>-0.27</td>
<td>-0.30</td>
<td>-0.29</td>
</tr>
<tr>
<td>(females)</td>
<td>-0.34</td>
<td>-0.23</td>
<td>-0.27</td>
<td>-0.17</td>
</tr>
<tr>
<td>rank</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Social Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(males)</td>
<td>-0.55</td>
<td>-0.19</td>
<td>-0.51</td>
<td>-0.35</td>
</tr>
<tr>
<td>(females)</td>
<td>-0.55</td>
<td>-0.36</td>
<td>-0.62</td>
<td>-0.5</td>
</tr>
<tr>
<td>rank</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Shyness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(males)</td>
<td>-0.72</td>
<td>-0.26</td>
<td>-0.85</td>
<td>-0.57</td>
</tr>
<tr>
<td>(females)</td>
<td>-0.74</td>
<td>-0.46</td>
<td>-0.81</td>
<td>-0.67</td>
</tr>
<tr>
<td>rank</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

**Overall Rating**

|                  | 1 | 4 | 2 | 3 |

**Note:** Rank order for reliability, social self-efficacy, social confidence, adjacent themes, and social risk-taking were done by ranking the scales from highest to lowest. Ratings for non-adjacent themes, depression, social anxiety, and shyness were done by ranking from lowest to highest. Overall ranking was calculated by taking the average of all other rankings and then ranking from highest to lowest.

**Table 8**

Summary of Psychometric Characteristics of the Subscales of the Sources of Social Self-Efficacy (by gender)
CHAPTER 5

DISCUSSION

This study had two major purposes. The first was to attempt to improve the psychometric characteristics, in particular the internal consistency reliability, of the Social Sources Scale (SSS) (developed by Anderson, 1996), a measure of an individual's experience with the four sources of background information postulated by Bandura to be related to the development of strong self-efficacy expectations. The SSS was specifically focused on the background sources of social self-efficacy expectations. The second major purpose of this study was to investigate the criterion and construct validity of the revised measure in relationship to postulates generated from Bandura's theory. Briefly, as portrayed graphically in Figure 1, these postulates were: that an individual's self-efficacy, or confidence, in a situation is determined by four antecedents (past performance, vicarious learning, emotional arousal, and verbal persuasion). These four sources of efficacy information lead to a given level of efficacy information which leads, in turn to three outcomes: whether an individual will approach or avoid a
given a given behavior, how that individual performs that behavior, and how long
that individual will persist in the face of failure.

To address the first major objective of this study, the original version of
the SSS was revised and expanded by expanding it from 28 to 55 items.
Improvements to the original SSS consisted of rewording or removing items with
binomial answers, and writing several new questions modeled after the Sources
of Math Self-Efficacy Scale developed by Lent et al. (1991). The revised SSS
was then administered to a sample of 250 college students. Finally, the scale
was reduced to 40 questions (10 per scale) by selecting those questions with the
highest inter-item correlations.

The first major goal of this study appears to have been accomplished
successfully. Individual scale reliabilities are as follows: Performance
Accomplishments, .79; Vicarious Learning, .76; Emotional Arousal, .91; Verbal
Persuasion, .86. The alpha for the entire scale is .94. It appears that all scales
have adequate reliability since they are all higher than .70 (considered adequate
by Nunnally & Bernstein, 1994). Thus, it now appears that the SSS is an
instrument which is reliable enough to be used for research and counseling
purposes.

As mentioned earlier, the second major purpose of this study was to
investigate the criterion and construct validity of the Social Sources Scale. The
SSS appears to show adequate criterion-related validity. In order to measure
criterion-related validity scores on the SSS were correlated with existing
measures of social self-confidence (the SCI) and social self-efficacy (the SES).
That is, the SSS, measuring the constructs on the left side of Figure 1 was
correlated with two criterion measures (the center of Figure 1), or social self-
efficacy.

The scales of the SSS appear to show adequate criterion-related validity,
especially for the Past Performance, Emotional Arousal, and Verbal Persuasion
Scales. Those scales have correlations of .50 to .66 with social self-confidence
(SCI) and correlations ranging from .50 to .70 with social self-efficacy (SES).
Correlations of .50 to .70 indicate between 75% and 49% shared variance
between the sources of social self-efficacy and its criterion measures.

While correlations of the Vicarious Learning scale with criterion measures
were lower than for the other scales (.31 to .46) they are still moderate in size
(Walsh & Betz, 1995). Also, it should be noted that Lent and Lopez (1996) found
that the Vicarious Learning Scale of the Sources of Math Self-Efficacy also
showed the lowest correlations to measures of math self-efficacy (.15). Thus, it
appears that an individual’s sense of social self-efficacy is more influenced by
his/her personal experiences (i.e., performance accomplishments, emotional
arousal, and verbal persuasion) than his/her modeling the behavior of others.

It was hypothesized that SSS scores would have high correlations with
adjacent Holland themes (Enterprising and Artistic) and lower correlations with
nonadjacent Holland themes (Conventional, Investigative, and Realistic) (Refer
to Figure 2). This hypothesis was partially supported, but there were some problems with it.

In terms of convergent and discriminant validity related to the Holland Confidence measures, the major sources of social self-efficacy (Performance Accomplishments, Emotional Arousal, and Verbal Persuasion) were strongly related not only to Social Confidence, but to Enterprising Confidence (average r was also .58). The Enterprising theme is adjacent to the Social theme on the Holland hexagon, but it also makes sense that confidence in the kinds of persuading, leading, and selling activities associated with the Enterprising theme would be related to confidence in one's social abilities. The Enterprising General Occupational Theme is, in fact, the score most highly related to the Leadership Personal Styles Scale (r = .50 for females and .51 for males) on the Strong Interest Inventory (Harmon et al., 1994).

The relationships to the other Holland themes were negligible, except for that with Realistic Confidence. Although this is a nonadjacent theme, some of the extracurricular activities sampled as part of the Performance Accomplishments subscale, for example, participation in sports and 4-H, are also Realistic activities. Thus, there may be substantive similarities between the SSS and the Realistic Confidence Scale.

The lack of relationship to Artistic Confidence, even though adjacent on the hexagon to social confidence, may be explained by a lack of any apparent substantive similarity between social activities and artistic activities. And, in fact,
Artistic is low on the "People" dimension of the Date/People/Things structure of the Strong Interest Inventory. Most Artistic activities, for example, painting, and writing are somewhat solitary in nature. Also, a lack of relationship between the background sources of social confidence and degree of Investigative Confidence was both postulated and found herein.

Finally, it should be noted that although both the Enterprising and Artistic themes are adjacent to the Social theme on the Holland theme, one would expect scores on the SSS scales to be more highly correlated to the former than the latter, since prior research has shown that the Social General Occupational Theme is more highly correlated with the Enterprising General Occupational Theme (.42) than to the Artistic theme (.33) (Harmon et al., 1994).

The final element of measuring the construct validity of the SSS was to examine its correlations with several postulated outcomes of social self-efficacy (the right side of Figure 1.). Shyness is one such outcome measure. Since self-efficacy expectations of shy individuals have been shown to be significantly lower than nonshy individuals (Hill, 1989), it was expected that SSS scale scores would have significant negative correlations with a measure of shyness. Likewise, negative correlations were expected for a measure of social anxiety since, by definition, social anxiety is the antithesis of social self-efficacy. That is, according to Bandura (1977, 1986) anxiety has an inverse correlation with an individual's perceived level of self-efficacy. As expected, most correlations between SSS...
scale scores and social anxiety and shyness were negative in direction and moderate to high in magnitude for both genders (ranging from .19 to .85).

Correlations with a newly developed measure of social risk-taking (Weber, 1997) did not come out as expected. Although some of these correlations are statistically significant, they are not, generally practically significant (ranging from .10 to .27). This may be due to several factors. First, the reliability of this measure (Social Scale of the Attitude Toward Risk Scale) is only .51 and since it is new there is no validity information available on it. It may be that this scale is not an adequate measure of social risk-taking. It may also be that, contrary to expectations, social risk-taking is not related to SSS scores.

An earlier study (Sherer, 1983) showed that general self-efficacy had a significant inverse correlation with depression (-.32). Also, since it would seem likely that a low sense of social self-efficacy might be related to high levels of depression, one objective of this study was examination of the relationships of the scales of the SSS to a well-established measure of depression, the Beck Depression Inventory. As expected, correlations between SSS scales and depression were all negative and significant with an average correlation of -.26.

In addition to evidence regarding reliability and validity of the four subscales of the SSS, there were several other findings of interest. First, there was some indication as to which types of counseling interventions might prove most effective for individuals with low social self-efficacy. The SSS scales with the highest correlations with social self-efficacy and social confidence were
Performance Accomplishments (average correlation of .63), Emotional Arousal (average correlation of .62) and Verbal Persuasion (average correlation of .60).

This data herein also suggests that certain individuals may be at greater risk of having lower SSS scores than others. Asian Americans had significantly lower scores on the SSS than did Caucasians. This may be due to Asian norms which may require them to not stand out in a crowd (Sue & Sue, 1990). Perhaps this along with unfamiliarity with a different culture may contribute to lower SSS scores for Asian Americans when compared to Caucasians.

Also, males had lower SSS scores than did females. This may be due to the effects of socialization. Females in our society, generally, are expected to be adept socially (Betz & Fitzgerald, 1987). Conversely, males are not generally held as accountable to develop social skills. Thus, males may not have as many experiences which would lead to the development of social self-efficacy as do females.

Finally, those individuals who had chosen a career have higher scores than those who hadn't or weren't sure. This makes some intuitive sense. It seems that one's comfort in a given social situation could be influenced by his/her sense of identity. It is possible that those individuals who have chosen a career would have a greater sense of identity, and thus social confidence than those who had not chosen a career.

This study appears to provide support for Bandura's (1977) Self-Efficacy theory. As shown in Figure 1 the four sources of efficacy information
(performance accomplishments, vicarious learning, emotional arousal, and verbal persuasion) are postulated to be related to the development of and individual's self-efficacy, or confidence in a given domain. The scale revised as a part of this study (the SSS), indeed, shows high correlations to the criterion measures of Social Confidence and Social Self-Efficacy.

Bandura also postulated that an individual's level of self-efficacy would be related to several outcomes (approach/avoidance, performance, and persistence). As expected, this study supports this hypothesis. That is, the SSS and the criterion measures (Social Confidence and Social Self-Efficacy) all show moderate correlations to the outcome measures used in this study (Shyness, Social Anxiety, Social Risk-Taking, and Depression).

This study has several implications for counseling interventions for individuals with low social self-efficacy. First, and most importantly, the pattern of correlations found in this study suggest that counseling interventions in both career and mental health settings focused on performance accomplishments, supportive statements, and a reduction in emotional arousal might be most effective at increasing an individual's confidence in social situations. Also, it appears that modeling, by itself, would provide the least effective intervention for increasing social self-efficacy. This suggestion would, of course, require substantiation by further research examining pre and post measures of social self-efficacy following interventions.
This study also indicates that the SSS may provide suggestions for counseling interventions for those individuals with high levels of interest in social-type occupations, but low levels of social self-efficacy. Social Sources Scale scores may also give suggestions for interventions with individuals who are suffering from depression, especially those who report being shy or socially anxious. Finally, given the findings in this manuscript, it may be wise for counselors to be especially aware of possible low social self-efficacy expectations in Asian Americans, males, and those who have not yet chosen a career.

Suggestions for further research are indicated. First, comprehensive demonstration of the psychometric quality of a measure includes studies of its test-retest stability. This has not yet been done for the SSS. A study designed to check the test-retest reliability for the SSS is in order. Also, more work needs to be done to increase the nomological net of the SSS. It would be interesting to see how the sources of social self-efficacy are related to other forms of self-efficacy, such as career decision-making self-efficacy.

It might also be enlightening to know how the social sources are related to other outcome measures, such as other forms of mental illness (e.g., anxiety disorders), self-esteem, and a measure of social skills. It would also be revealing to see what the results would be if the SSS were administered to a sample of employed adults, a sample of older adults, or a more ethnically diverse sample. Also, several studies could be developed to learn which
interventions, suggested by the SSS, would be most effective in raising an individual's sense of social self-efficacy expectations.

This research has its limitations. This sample may not be generalizable to other populations since it was drawn from a population of generally Caucasian college freshmen at one midwestern university. It would be beneficial, at some future time to replicate this study in working populations and/or populations of ethnic minorities. Also, since this study is correlational in nature we have no way of knowing that we can influence an individual's level of social self-efficacy. It will be important, at some time in the future, to run an experiment which attempts to increase SSS for individual's with low social self-efficacy. Finally, it has been posited herein that low perceived social self-efficacy is a barrier to career development, in general, and development of social-type professions specifically, however that has not been proven in this study. Future research should focus on which barriers occur because of low perceived social self-efficacy, career or otherwise.

In summary, the present study culminated in the improvement, in terms of internal consistency reliability and construct validity, of a measure of experiences with the four sources of information postulated to influence the development of social self-efficacy. The results of this study have relevance for Bandura's theory and for the design of counseling interventions. Given the importance of social competence in both career and personal development, future research using the Social Sources Scale is warranted.
REFERENCES


Appendix A

Social Sources Scale (Revised)

Welcome to our study.
First we'd like some information about you!

A. Please complete the section for sex on the NCS answer sheet.

B. Fill in the section immediately below sex labeled Grade or Educ as follows:

Freshman = 1 Sophomore = 2 Junior = 3 Senior = 4 Other = 5

C. At the bottom of the section fill in birthdate (Month, day, year).

D. Do not change the identification number on your sheet.

E. Under Special Code K (to the right of identification number) indicate your race using the following numbers:

4. Caucasian, Non-Hispanic 5. American Indian
6. International Student 7. Other

F. Under special code L, tell us whether or not you have decided on a major using this code:

1. yes
2. no
3. not sure

G. Under special code M, tell us whether you have decided on a career using this code:

1. yes
2. no
3. not sure
Directions: Please read each statement carefully. Then decide how strongly you agree or disagree with each statement. Your response number indicates how closely each statement describes you. There are no right or wrong answers. Please use the following key and fill in the corresponding circle on the attached NCS answer sheet.

*(At the left of each question is a code for which scale it measures as follows: \( P = \) Performance Accomplishments, \( M = \) Modeling or Vicarious Learning, \( A = \) Anxiety or Emotional Arousal, and \( V = \) Verbal Persuasion.)*

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Neutral</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

A    1) Making new friends always made me nervous.

M    2) I always had difficulty making friends.

P    3) People have told me that I was easy to talk to.

V    4) My peers told me I was skilled in social situations.

V    5) I received strong encouragement to socialize as a child.

A    6) I was comfortable around my peers in school.

P    7) I always had a lot of friends.

V    8) Older people have told me that I was skilled in social situations.

P    9) I had a lot of people around while I was growing up.

M   10) My favorite teachers had good social skills.

A    11) I get a sinking feeling when I think of interacting in social situations.

P    12) I received good grades in classes that required giving a speech.

M    13) While growing up, many of the adults I admired had good social skills.

V    14) Other people generally see me as being poor in social situations.
<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Neutral</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

P 15) In social situations I always feel like I know what I am doing.

A 16) I really get uptight in social situations.

V 17) My parents have encouraged me to be proud of my social skills.

M 18) My career role models, generally, have poor social skills.

V 19) My friends have encouraged me to make use of my social skills in my Career choice.

P 20) Social situations have always been difficult for me.

A 21) I am almost never get uptight in social situations.

M 22) My friends tended to avoid social situations.

M 23) My parents do not have good social skills.

M 24) People I look up to, generally, have good social skills.

P 25) I usually don’t worry about how I’ll do in social situations.

P 26) I went to fewer parties than most of my high school friends.

A 27) Social situations make me feel uneasy and confused.

P 28) When I feel stuck in a social situation I work at it until I solve the problem.

M 29) Many adults I know have good social skills.

A 30) I have usually been at ease in social situations.

P 31) I have always been talented socially.
<table>
<thead>
<tr>
<th>Strongly Disagree 1</th>
<th>Moderately Disagree 2</th>
<th>Neutral 3</th>
<th>Moderately Agree 4</th>
<th>Strongly Agree 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>V 32) High school teachers rarely told me I had good social skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A 33) Parties make me feel uncomfortable and nervous.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M 34) Many of my friends are in fields which do not require strong social skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V 35) My parents have encouraged me to develop my social skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A 36) I have usually been at ease in social situations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P 37) Whenever I could I took courses to increase my social skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M 38) My parents interacted with my friends.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V 39) My advisor has told me that I am talented socially.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M 40) I knew few people who were talented socially.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

Original Social Sources Scale
(The demographic questions were the same on both versions of the SSS.)

(At the right of each question is a code for which scale it measures as follows: 
P = Performance Accomplishments, L = Modeling or Vicarious Learning, E = Anxiety or Emotional Arousal, and V = Verbal Persuasion.)

For the first part of this study we would like to ask you about some of the activities you participated in while growing up. Please answer yes or no to each and fill in the corresponding circle on the answer sheet using the following code.

__________________________________  1-yes    2-no

1. I was active in team sports.  P
2. I have taken a course in public speaking.  P
3. I have taken a course in social skills/leadership training.  P
4. I have done peer counseling.  P
5. I have worked as a volunteer.  P
6. I had an adult mentor (teacher, coach, aunt/uncle, etc.).  V
The next part of the questionnaire deals with how you believe that you acquired your attitudes toward social interactions. Please read each statement carefully. Then decide how strongly you agree or disagree with each statement. Your response number indicates how closely each statement describes you. There are no right or wrong answers. Please indicate you answer on the accompanying answer sheet.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Neutral</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Making new friends always made me nervous.</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. My parents had a lot of parties.</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I was exposed to a lot of different types of people.</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. My parents were very social.</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. My parents interacted with my friends.</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I had difficulty making friends.</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I was anxious at parties.</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. My family was active at church.</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I had lots of dates.</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. People have told me that I was easy to talk to.</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. People have told me that I am good with children.</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Sometimes I was afraid that people wouldn't like me.</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. I generally felt comfortable communicating with my parents.</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. My peers told me that I was skilled in social situations.</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. I did a lot of reading as a child.</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. I received strong encouragement to socialize as a child.</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
24. I was comfortable around my peers in school.  
25. I had a lot of friends.  
26. Older people have told me that I was skilled in social situations.  
27. I felt undue pressure to socialize as a child.  
28. I had lots of people around while I was growing up.
APPENDIX C

DEBRIEFING STATEMENT

Dear Students:

Thank you so much for participating in our experiment. We are interested in college students beliefs about various aspects of their self-esteem, and how those are related to their competencies and beliefs about their future career pursuits. The first measure that you responded to was a measure of your beliefs about your competence in social situations. The second was a measure of your beliefs about your competencies relative to six broad areas of career activity, including Science, Arts, Social, Outdoors-technical, Business/Sales, and Computing/Accounting/Clerical. Following that were measures of social self-confidence, tendency toward feelings of depression, shyness, and social anxiety. Finally, you answered a measure of your attitude towards taking risks.

What we hope to learn from this study is how perceived career competencies are related to other aspects of adjustment and career decision-making.

If in the course of this experiment, you have developed concerns or uncertainties about your educational major or career plans or about your self-esteem, you may wish to seek counseling. If you wish to do this, you might be able to find counseling here in Townshend Hall at the Psychological Services Center (please call Dr. Richard Russell at 292-0533). In addition, The Ohio State University Counseling and Consultation Services located on the 4th Floor of the Ohio Union is open 8 hours a day for appointments and, if needed, on an emergency basis. If you need counseling services through the Counseling and Consultation Services, please call 292-5766. If you have any other questions about this study or would like additional counseling referrals, please call Dr. Nancy Betz at 292-4166.

Again, thank you for assisting us with this research. We hope that it will eventually be used to help people like you.