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I Hope that I am not Anxious About Using the Library: The Relationship Between Hope and Library Anxiety Among Graduate Students

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ABSTRACT: Library anxiety has been found to be a multidimensional phenomenon which can debilitate performance among graduate students. Yet, only recently has empirical research been undertaken in this area. However, it appears that library anxiety often occurs when goals are not met. Since hope is a cognitive set which consists of level of goal-directed determination (agency) and the propensity to plan ways to achieve goals (pathways), the purpose of this study was to investigate whether hope is related to library anxiety. Participants were 109 graduate students enrolled in several sections of an educational research course. A canonical correlation analysis indicated that students who have the poorest sense of successful determination in relation to their goals, and who have the least positive appraisals of their ability to generate ways to overcome goal-related obstacles and to reach their goals, tend to have the highest level of library anxiety associated with comfort with the library and knowledge of the library. Also, students with the poorest sense of successful goal-related determination tend to have the highest level of library anxiety associated with barriers with staff, affective barriers, comfort with the library, knowledge of the library, and mechanical barriers. Based on these findings, it is recommended that researchers investigate whether interventions aimed at agency and pathways help to reduce levels of library anxiety.

The overwhelming majority of college students utilize academic libraries at least once a week (Burns, 1977; Gratch, 1980; Jiao & Onwuegbuzie, 1997; Kodras & Prather, 1978). Thus, libraries are an important resource for most students. Unfortunately, many undergraduate and graduate students alike, when utilizing their libraries, experience high levels of anxiety. This anxiety, termed library anxiety, has been found to be prevalent among college students (Mellon, 1986, 1988). Indeed, Mellon (1986) estimated that between 75% and 85% of college students experience some form of library anxiety during their initial library research experiences.

As noted by Jiao, Onwuegbuzie, and Lichtenstein (1996), library anxiety is a situation-specific anxiety which occurs when students are utilizing the library or contemplating its use. Although it is

likely that library anxiety has existed for many decades, it only became the subject of formal research in the mid-1980s, as a direct result of Mellon's (1986) qualitative study conducted on 6,000 undergraduate students. Moreover, empirical research in this area only came to the fore within the last decade with the development and establishment of a reliable and valid measure of library anxiety (Bostick, 1992). Thus, library anxiety research is a relatively new phenomenon. Unfortunately, it is likely that the expansion in the capacity of libraries, the increased role of microcomputers and other technologies in libraries, and the growth in the diversity of library users--all of which have accelerated over the last decade--have increased the prevalence and importance of library anxiety over this period.

According to Onwuegbuzie et al. (1996), students with high levels of library anxiety often exhibit cognitive, affective, and/or physiological symptoms, which include fear, tension, feelings of uncertainty, learned helplessness, and mental disorganization. As such, library anxiety can debilitate information literacy by directing attention away from the task itself, culminating in search-avoidance behaviors, which, in turn, prevent them from developing library skills (Kuhlthau, 1988, 1991; Onwuegbuzie, 1997).

Recently, library anxiety also has been conceptualized as a multifaceted phenomenon (Bostick, 1992; Onwuegbuzie, 1997). Specifically, using factor analysis, Bostick (1992) identified five components of library anxiety, namely: (1) barriers with staff, (2) affective barriers, (3) comfort with the library, (4) knowledge of the library, and (5) mechanical barriers. According to Bostick (1992), barriers with staff refers to a student's perception that librarians and other library staff are intimidating and aloof, as well as the extent to which librarians are perceived as being too busy to assist students. Affective barriers measure students' feelings of inadequacy about using the library. Comfort with the library deals with how safe, welcoming, and non-threatening students perceive the library to be. Knowledge of the library refers to how familiar with the library students feel they are. Finally, mechanical barriers are concerned with feelings which emerge as a result of students' reliance on mechanical library equipment, such as computer printers, copy machines, and change machines.

Similarly, using quantitative and qualitative analyses, Onwuegbuzie (1997) theorized that the following components of library anxiety are experienced by graduate students while they are engaged in the research proposal writing process: (1) interpersonal anxiety, (2) perceived library competence, (3) perceived comfort with the library, (4) location anxiety, (5) mechanical anxiety, and (6) resource anxiety. According to Onwuegbuzie (1997), interpersonal anxiety, which is similar to Bostick's (1992) barrier with staff component, refers to an increase in anxiety levels when a student contemplates or is in the process of seeking help from a librarian, particularly at the initial stages of the research proposal process. Perceived library competence, like Bostick's (1992) affective barriers component, refers to an increase in anxiety levels resulting from students having negative perceptions of their ability to utilize the library effectively. Perceived comfort with the library, which is identical to Bostick's (1992) comfort with the library, pertains to the anxiety that arises from a student's perception of how safe and welcoming the library is. Location anxiety, which is equivalent to Bostick's (1992) knowledge of the library component, pertains to the student's level of perceived familiarity with the library. Mechanical anxiety, like Bostick's (1992) mechanical barriers, refers to the increase in anxiety levels when students are using, attempting to use, or contemplating using mechanical library equipment. Finally, resource anxiety pertains to the anxiety which arises when a

student selects a list of citations of articles and books from a library computer search only to find out later that the material is not available at the library.

Perhaps most importantly, Onwuegbuzie (1997) separated library anxiety from what he termed as research process anxiety, the latter of which includes negative emotions that emerge when (1) students find it a daunting task to become familiar with research terminologies (i.e., *fear of research language*); and (2) students find it difficult to apply the scientific process, culminating in an inability to incorporate information into their research proposals (i.e., *fear of application of research knowledge*).

In an attempt to address the library anxiety experienced by students, some librarians have incorporated information about library anxiety into their bibliographic instruction courses (Mellon, 1988, 1989). In particular, affective skills development has been an integral part of some of these courses (Zahner, 1993). Indeed, this strategy has been found to improve attitudes towards libraries and to reduce levels of library anxiety (Markman & Leighton, 1987; Ramey, 1985; Zahner, 1993).

The information search is perhaps the most common task undertaken by students. Kuhlthau (1988, 1991) theorized that the information search process involves the following six stages: task initiation, topic selection, prefocus exploration, focus formulation, information collection, and search closure. According to this theory, library anxiety may begin during any one of these six stages. This anxiety not only interferes with the necessary mental and creative processes, but also exacerbates basic physical locating operations (Keefer, 1993). Kuhlthau, Turock, George, and Belvin (1990) noted that possible sources of these feelings of anxiety are unfocused topic selection and lack of a mental model of the research process. Since successful completion of these steps involves the setting of goals in which focused perspectives of topics are reached, it is possible that students who do not reach their goals or do not perceive that they will reach their goals experience elevations in library anxiety. Since an individual's level of hope determines how goals are pursued (Snyder et al., 1991), although not yet tested empirically, hope may be an antecedent of library anxiety.

Until recently, researchers have treated hope as an unidimensional construct pertaining to the overall perception that goals can be achieved (Cantril, 1964; Erickson, Post, & Paige, 1975). However, using factor analysis and other empirical techniques, Snyder et al. (1991) identified two dimensions of hope: *agency* and *pathways*. According to these authors, these two dimensions help to explain how goals are pursued. *Agency* refers to a sense of hope which is activated and maintained by the perception of successful determination in meeting goals in the past, present, and future; whereas *pathways* pertain to the perception of being able to create successful strategies which lead to goals being met. Consequently, these two dimensions are "reciprocal, additive, and positively related" (Snyder et al., 1991, p. 571). In order for individuals to maintain progress towards their life goals, both the sense of agency and the sense of pathways must be fully operational.

While setting a goal, a low-hope individual's assessment of insufficient agency and pathways often leads to perceptions that goal attainment is unlikely, to negative self-defeating thoughts with a preoccupation on failure, and to negative states of somatic arousal during goal-related endeavors. The converse is true for high-hope individuals. As such, high-hope persons are able to select and to attain more challenging goals (Snyder et al., 1991). Since the information search process presents problems for many students at one or more of the stages (Kuhlthau, 1991), it is likely that levels of hope may play a role in determining levels of library anxiety. Specifically, whereas high-hope students might tend to perceive that they would be successful at attaining their goals relating to the information search process, it is likely that low-hope students would perceive themselves as having a low probability of obtaining their goals, and thus are more susceptible to having high levels of library anxiety. Indeed, Holleran and Snyder (1990) found a negative relationship between hope and anxiety as measured by the Taylor Manifest Anxiety Scale (Taylor, 1953) and the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Luchene, 1970). Thus, the purpose of this study was to test the hypothesis that level of hope is related to library anxiety.

Method

Subjects

The sample comprised 109 students from a number of social and behavioral science disciplines (e.g., education, nutrition, health sciences, speech-language pathology, kinesiology, nursing, and mathematics) who had enrolled in five sections of a graduate-level research methodology course over a two-semester period at a mid-southern university. The same instructor taught all sections. Participation was voluntary. In order to participate, students were required to give their consent by signing an informed consent form. Participants received extra course credit. No student declined to participate. All surveys were coded using student identification numbers in order to maximize confidentiality. The ages of the sample members ranged from 22 to 55 (mean = 31.8, SD = 8.5) with a mean grade point average of 3.65 (SD = 0.40). The majority of participants was female (79.4%). Respondents were at various stages in their graduate program. Indeed, the number of graduate courses they had taken previously ranged from 0 to 13 (M = 4.4, SD = 3.2).

The library at the university where the study took place is housed in the newly renovated twostory building, centrally located on campus. It contains about 517,000 printed volumes, 747,000 microforms, 25,000 government documents, 2,700 periodical and journal subscriptions, 4,000 sound recordings, and 18 CD-ROM databases. The library has a computerized online catalog and networked CD-ROM workstations. It is staffed by 13 librarians, 23 technical support personnel, and 78 student assistants.

According to the university graduate handbook, the course involved the "application of scientific method to educational research, including nature of research problems in education, theory of research, experimental design, techniques in data gathering, the interpretation of results, research reporting, and bibliographical techniques." Over the 16-week semester, classes were held for three hours, once per week. The main requirement of the course was the completion of a research proposal. The objective of the proposal was to prepare students throughly to be able to write proposals for dissertations and for seeking external funding. As such, the research proposals provided authentic assessment. Specifically, the research proposal, which could represent either quantitative or qualitative research on a topic of their choice, had to comprise a title, introduction section, review of the related literature, methodology section, analysis section, bibliography, and appendix section including a biography of proposals had to be unique, realistic, have educational

significance, and extend the knowledge base. Students were expected to type their proposals, following guidelines specified by the American Psychological Association (1994). Students' writing style (e.g., grammar, punctuation, clarity, and application of American Psychological Association criteria (1994)) also was assessed. This assignment was worth 40% of their final grade. A scoring rubric was used to evaluate proposals. All proposals had to include an in-depth review of the literature, and thus extensive library usage was required. Indeed, although many research methodology instructors appear to require what could be conceptualized as a mini-proposal, the research proposal in this course was required to be extremely comprehensive. Indeed, over the years, research proposals in this course typically ranged from 25 to 40 pages, with the literature review section usually ranging from 5 to 15 pages. Students were encouraged not only to use the library to obtain sources for their literature review, but also to utilize it to select and to obtain information about instruments proposed to be used (e.g., psychometric data, contact address of instrument developers). Thus, the successful completion of the research proposal relied heavily on library skills. Students were encouraged to immerse themselves with their research proposals from the first class meeting. Indeed, students were required to formulate their research questions by the second class meeting and to start obtaining literature sources by the third class meeting.

The second major course requirement involved a written critical evaluation of a published research report (article critique). The major goal of the article critique was to allow students to practice evaluating published research articles utilizing principles of the scientific method. A scoring rubric was utilized to provide students with detailed feedback from their instructors. In order to prevent students from procrastinating, students were required to select several potential articles to critique and to bring them to the second class meeting for advice from the instructor as to their appropriateness. Furthermore, students were required to make their final selection as to which article to critique by the third week of the semester.

Since students in the research methodology course typically had various levels of experience using the library, a one-hour library orientation always was provided for them at the second class meeting. In this orientation, the library instructor demonstrated how to conduct extensive library searches, showing them how to use several electronic databases (e.g., ERIC, PsycLIT, MEDLINE, CINAHL), as well as familiarizing students with the location of various sources (e.g., periodicals) and interfaces. In short, this orientation involved course-integrated instruction, live interactive demonstrations, and hands-on practice exercises. In addition, students were provided with handouts with point-of-use instructions that were specifically designed for graduate students. Indeed, most students found this orientation to be extremely useful (Onwuegbuzie, 1997). In addition, the instructor of the research methodology course, within the class period, taught various information retrieval techniques, such as Boolean logic. Students also were encouraged to ask the instructor questions pertaining to the library at any class session during the course. Due to the comprehensiveness of the article critique and the research proposal, the instructor attempted to make himself as available as possible to his students outside class time and office hours, encouraging them to contact him at his home between 10 am and 10 pm, on any day of the week (including weekends and holidays), if they had any questions about the assignments. Many students took advantage of this opportunity.

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Instruments

Instruments were administered at approximately the midpoint of the course--since this was typically a time by which all students had obtained adequate exposure to the library (Onwuegbuzie, 1997). Indeed, by this stage, most students have collected the vast majority of their literature sources, and many had started writing the literature review section of their proposals. The following instruments were used in the study: the Library Anxiety Scale (LAS) and the Hope Scale.

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The LAS, developed by Bostick (1992), is a 43-item, 5-point Likert-format instrument which assesses levels of library anxiety. The instrument has five subscales, namely, *barriers with staff, affective barriers, comfort with the library, knowledge of the library*, and *mechanical barriers*. A high score on any subscale represents high anxiety in this area. For the present study, the reliability of the subscales, as measured by coefficient alpha, were as follows: .79 (barriers with staff), .81 (affective barriers), .77 (comfort with the library), .84 (knowledge of the library), and .88 (mechanical barriers).

The Hope Scale, developed by Snyder et al. (1991), contains 12 items, of which four are fillers. The remaining eight items consist of four Agency items and four Pathways items. According to its authors, the Agency items tap the sense of successful determination with respect to the individual's goals. The Pathways items pertain to an individual's cognitive appraisals of his ability to overcome goal-related obstacles and to reach his goals. Cronbach's alphas ranged from .71 to .76 for the Agency subscale, and from .63 to .80 for the Pathways subscale (Snyder et al., 1991). In addition, its authors reported test-retest reliabilities for the total scale as follows: .85 (3-week interval), .73 (8-week interval), and .76 and .82 (10-week intervals). A principal components factor analysis with oblique rotations revealed two distinct factors, Agency and Pathways, providing evidence of construct-related validity.

Analysis

A canonical correlation analysis was conducted to identify a combination of library anxiety dimensions which might be correlated with one or both of the hope dimensions. Canonical correlation analysis is recommended to examine the relationship between two sets of variables, whereby each set contains more than one variable (Cliff & Krus, 1976; Darlington, Weinberg, & Walberg, 1973; Thompson, 1980, 1984). Indeed, as pointed out by Knapp (1978, p. 410), "virtually all of the commonly encountered tests of significance can be treated as special cases of canonical correlation analysis." That is, canonical correlation analysis can be utilized to undertake all the parametric tests which canonical correlation methods subsume as special cases, including multiple regression, *t*-tests, analysis of variance, analysis of covariance, and multiple analysis of variance (Thompson, 1988).

In the present study, the five dimensions of library anxiety identified by Bostick (1992) were treated as the dependent multivariate set (i.e., the criterion composite), whereas the two hope dimensions were treated as the independent set (i.e., the predictive variable composite). The number of canonical roots which can be generated for a given dataset is equal to the number of variables in the smaller of the two variable sets. Thus, two canonical roots were generated.

Two types of canonical coefficients were computed, namely, standardized canonical function coefficients and structure coefficients. Standardized canonical function coefficients are derived weights applied to each of the variables in a given set in order to obtain the composite variate used in the canonical correlation analysis. As such, standardized canonical function coefficients are analogous to factor pattern coefficients in factor analysis or to beta coefficients in a regression analysis (Arnold, 1996). Structure coefficients are the correlations between a given variable (dimension) and the scores on the canonical composite (i.e., latent variable) in the set to which the variable (dimension) belongs (Thompson, 1980). Thus, structure coefficients indicate the degree of relationship of a given variable in the set with the canonical composite for the variable set. The square of the structure coefficient is the proportion of variance that the original variable shares linearly with the canonical variate.

Results

Table 1 presents the correlations between the library anxiety variables and the hope variables. These correlations, together with the intercorrelations, formed the correlation matrix which was used for the canonical correlation analysis. Although no multivariate test of normality was conducted, the Shapiro-Wilk test (Shapiro & Wilk, 1965; Shapiro, Wilk, & Chen, 1968) was used to examine the univariate distribution of the hope and library anxiety dimensions No evidence (p < .05) of non-normality was found with respect to any of these variables.

Table 1

Pearson Product-Moment Correlations of Hope Dimensions and Library Anxiety Dimensions

	Agency	Pathways	
Barriers with staff	24*	.04	
Affective Barriers	24*	10	
Comfort with the Library	29**	14	
Knowledge of the Library	23*	16	
Mechanical Barriers	08	.04	

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

The canonical analysis indicated that both canonical functions were significant. The first canonical function ($R_{c1} = .33$, p < .05) contributed approximately 11% (i.e., $R_{c1}^2 = .33^2 = .11$) to the shared variance; whereas the second canonical function ($R_{c1} = .30$, p < .05) contributed approximately 9% (i.e., $R_{c1}^2 = .30^2 = .09$) to the shared variance. Thus, the two canonical functions combined accounted for 20% of the relationships between the library anxiety and hope variables.

Table 2 presents data pertaining to the first canonical function. Although the absolute magnitude of the standardized function coefficients may be relatively reliable in ascertaining the contribution of a variable to the composite, the numerical values of these coefficients are highly affected by the collinearity of the variables in a given set. Due to the moderate to large statistically significant intercorrelations among the library anxiety dimensions and the hope dimensions (not presented), only the structure coefficients were interpreted.

Table 2

Canonical Analysis of Hope Dimensions and Library Anxiety Dimensions: First Canonical Function

Variable	Function	<u>Structure</u>	Structure ² (%)	
Hope:		. <u> </u>		
Pathways	-1.01	-0.99*	98.01	
Agency	0.02	-0.47*	22.09	
Adequacy (mean of structure ²)	0.02	0.17	60.05	
Redundancy (Adequacy x R_{c1}^{2})			6.70	
Library Anxiety:				
Barriers with Staff	-1.39	-0.13	1.69	
Affective Barriers	0.33	0.19	8.41	
Comfort with the Library	1.15	0.39*	15.21	
Knowledge of the Library	0.45	0.48*	23.04	
Mechanical Barriers	-0.37	-0.15	2.25	
Adequacy (mean of structure ²)	0.01	0.10	10.12	
Redundancy (Adequacy $x R_{c1}^{2}$)			1.13	

* loadings with large effect sizes

Using a cutoff correlation of 0.3 recommended by Lambert and Durand (1975) as an acceptable minimum loading value, the structure coefficients pertaining to the first canonical function revealed that both pathways and agency made a noteworthy contribution to the criterion composite. With respect to the library anxiety set, *comfort with the library* and *knowledge of the library* made important contributions to the predictor variable composite. These findings indicate that students who had the poorest sense of successful determination in relation to their goals and who have the least positive appraisals of their ability to generate ways to overcome goal-related obstacles and to reach their goals tended to have the highest level of library anxiety associated with *comfort with the library* and *knowledge of the library*.

Data pertaining to the second canonical root are presented in Table 3. The structure coefficients revealed that the following agency made important contributions to the second canonical variate. All five library anxiety dimensions made important contributions to this canonical variate, with *barriers*

with staff making the most noteworthy contribution. These findings suggest that students with the poorest sense of successful goal-related determination tended to have the highest level of library anxiety associated with barriers with staff, affective barriers, comfort with the library, knowledge of the library, and mechanical barriers.

Table 3

Canonical Analysis of Hope Dimensions and Library Anxiety Dimensions: Second Canonical Function

Variable	Function	Structure	Structure ² (%)	
Норе:				
Pathways	0.54	-0.02	0.04	
Agency	-1.14	-0.88*	77.44	
Adequacy (mean of structure ²)			38.74	
Redundancy (Adequacy x R_{c1}^{2})			3.39	
Library Anxiety:				
Barriers with Staff	0.80	0.99*	98.01	
Affective Barriers	0.06	0.73*	53.29	
Comfort with the Library	0.19	0.88*	77.44	
Knowledge of the Library	0.02	0.58*	33.64	
Mechanical Barriers	-0.02	0.38*	14.44	
Adequacy (mean of structure ²)			55.36	
Redundancy (Adequacy x R_{c1}^{2})			4.84	

* loadings with large effect sizes

Discussion

As hypothesized, hope appears to be related to library anxiety. Thus, students with appraisals of insufficient agency and pathways, who typically find it difficult to maintain progress towards their life goals, are at-risk with respect to *barriers with staff, affective barriers, comfort with the library, knowledge of the library*, and *mechanical barriers*. This finding is consistent with Holleran and Snyder (1990), who found a negative relationship between hope and anxiety as measured by the Taylor Manifest Anxiety Scale (Taylor, 1953) and the State-Trait Anxiety Inventory (Spielberger et al., 1970).

It is likely that low-hope students, when attempting to utilize academic libraries, develop and maintain the perception that their goals of undertaking tasks, particularly those related to the information search process, are unobtainable. These students subsequently set lower goals for task completion, which exacerbate their levels of anxiety, since they perceive lower goals as threats to the quality of their assignments from which the library tasks stem (Onwuegbuzie, 1997). Their elevated levels of library anxiety, in turn, may further manifest itself in search avoidance behaviors, in attention to information and material that is irrelevant to the goal attainment, and in diminished information processing capacity due to preoccupation with negative self-defeating thoughts (Kuhlthau, 1988, 1991; Onwuegbuzie, 1997). To the extent that this is true, low-hope graduate students should be encouraged by course instructors and library staff to persevere with the library task, however challenging, until completion.

Ironically, the perception that they are unable to create successful strategies to meet high goals for task completion also may make them afraid to seek help from librarians, for fear of revealing their ineptness (Mellon, 1988). To the extent that low-hope individuals refrain from asking for help, this would reflect the often replicated finding of an inverse relationship between help-seeking and the need for assistance, with students who most need assistance being the least likely to ask for it (Karabenick & Knapp, 1988). Thus, library staff should be proactive in providing assistance to graduate students.

A limitation of the present study is the relatively small sample used. These results, therefore, need to be replicated with larger samples and with different populations (e.g., undergraduate students) in order to determine the generalizability of these findings. Another limitation arose from the fact that, at present, extensive psychometric data do not exist regarding either the Hope Scale or the LAS. Perhaps most importantly, since this was a correlational study, it cannot be concluded whether low hope associated with either agency or pathways causes library anxiety levels to elevate. Thus, future research should try to determine whether hope and library anxiety are causally related. This could be undertaken by examining whether interventions aimed at agency and pathways help to reduce levels of library anxiety.

The fact that 20% of the relationships between the library anxiety and hope variables was accounted for, suggests that hope is an important predictor of library anxiety. Notwithstanding, this finding also implies that other factors share 80% of the variance with library anxiety. These factors possibly include learning styles (Onwuegbuzie & Jiao, 1998a), perfectionism (Jiao & Onwuegbuzie, in press), self-esteem (Jiao & Onwuegbuzie, 1998), study skills (Onwuegbuzie & Jiao, 1998b), and demographic variables such as ethnicity (Onwuegbuzie & Jiao 1997), age, sex, year of study, grade point average, employment status, and frequency of library visits (Jiao et al., 1996). In any case, the expanding role of college libraries render it imperative for researchers to continue to explore antecedents of library anxiety.

Nevertheless, the findings from the present study add support to Jiao et al.'s (1996) recommendation that affective skills development be incorporated into bibliographic instruction. Indeed, this has typically not been the focus of library instruction (Zahner, 1993), even though this technique has been found to improve attitudes towards libraries (Markman & Leighton, 1987; Ramey, 1985).

Affective skills development could include administering the Hope Scale to students in order to make them aware of their agency and pathways thinking, followed by discussions aimed at determining how their level of hope might be affecting their levels of library anxiety. Such information could then lead to specific interventions designed to improve students' coping skills while using libraries. For example, whereas students who are low in pathways thinking could be taught strategies to improve coping skills while utilizing the library, those with low agency thinking could be helped to find out how to motivate themselves to utilize the library.

In sum, hope theory appears to provide a useful framework for predicting levels of library anxiety. Snyder et al. (1991) asserted that the Hope Scale "may provide a useful instrument for understanding how people relate their goals in several different life arenas" (p. 583). This appears to be the case in the study of the information search process and how it relates library anxiety.

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