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An Exploration of African American Students’ Attitudes Toward Online Learning

Theresa M. Okwumabua¹, Kristin M. Walker², Xiangen Hu¹, and Andrea Watson¹

Abstract
The current work presents exploratory research findings concerning African American students’ attitudes toward online learning. The Online Tutoring Attitudes Scale (OTAS; Graff, 2003) was administered to 124 African American students in a positive youth development program. Findings suggest that African American students’ attitudes toward computers are inconsistent with their attitudes toward online learning. African American students reported positive attitudes toward computers; however, their attitudes reflected anxiety, lack of confidence, and little use for online learning experiences. Implications of this research are relevant to educational interventions, academic achievement, and technological advancement with respect to underrepresented populations.

Keywords
academic achievement, African American students, computers, elementary school, home computers, minority academic success, race, student self-esteem, youth development

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Computer technology is one of the most important resources available to the public in the 21st century. In the past decade, the wave of technology has managed to permeate every realm of society from communication to formal education. Education has benefited greatly from the technological wave such that information can be disseminated to people with very few limitations. Online experiences allow people to exchange information without the concerns of time, location, and other physical barriers to communication (Mitra, Joshi, Kemper, Woods, & Gobble, 2006). Likewise, distance learning, online learning and tutoring, and virtual classrooms are among the most commonly recognized forms of computer technology in classrooms (Mitra et al., 2006). These innovative changes in education are available to enhance the learning experiences of students of all demographics. Members of underrepresented populations are just as likely to own or have access to computers as members of the majority population (Ervin & Gilmore, 1999). Individuals in minority populations also appear to be using the computer and the Internet at rates similar to their majority counterparts (Ervin & Gilmore, 1999; Webb, 2002). Nonetheless, some have suggested that there is a gap between groups in society with respect to the use of technology to enhance learning (Hackbrath, 2004; Judge, Puckett, & Bell, 2006).

Eamon (2004) examined the differences in computer use that exist between poor and nonpoor youth. In particular, the researcher wanted to determine the patterns of use relevant to youth who have computers in their home; differences in academic and recreational use were also evaluated (Eamon, 2004). Data were retrieved from the National Longitudinal Survey of Youth (NLSY) and NLSY mother/child data sets to examine the disparity between the access and use of technology, commonly referred to as the digital divide. The findings revealed that poor and nonpoor students used home computers at comparable rates. In general, students more frequently used the computer for recreational purposes (e.g., email, writing letters, playing games, etc.). However, poor students used the computer for academic purposes equally as often as their nonpoor counterparts (Eamon, 2004). The differences in use of computers by poor youth for nonacademic purposes were attributed to the lack of access to home computers despite their access to computers in community locations. Regardless of the conclusions about home computer access, alternative explanations for why the differences are emerging were not clear. It is likely that any differences that exist among various social groups may be attributed to factors other than those relevant to socioeconomic status. To this end, there may be psychological factors (i.e., anxiety, motivation, etc.) that have a greater influence on whether individuals participate in virtual and online activities. Although researchers may not agree on the antecedents or factors that widen the technological gap between different groups in society,
there is the consensus that more research examining these factors is necessary (Webb, 2002).

The attitudes of African Americans are of particular interest for this work because little research is available about this population and their attitudes toward online learning experiences. Furthermore, the research that has been done in this area has examined the attitudes of adult populations (Mitra et al., 2006; Webb, 2002). Ervin and Gilmore (1999) used focus groups and questionnaires to explore the frequency of computer use and attitudes toward computer technology among African American, Pacific Asian, and White students. African Americans used computer technology at rates comparable to the non–African American students in the study (Ervin & Gilmore, 1999). The results suggested that the digital divide as it relates to race/ethnicity and socioeconomic status may not be the most appropriate explanation for the link between African Americans and computer technology. Macro-level variables such as societal and cultural mistrust may be influencing the use and attitudes of this group (Ervin & Gilmore, 1999). Although this study described the patterns of use and attitudes toward technology of African American adults, these findings may not hold true for African American children. African American children may have similar attitudes toward computer technology, but the reasons for these attitudes may be significantly different from that of African American adults. As online learning opportunities increase in America’s classrooms, an understanding of children’s attitudes toward these experiences becomes important for implementation and facilitation of successful online applications of learning.

The purpose of the present study was to explore the attitudes of African American students toward online learning and tutoring experiences. Specifically, the goal was to determine students’ attitudes related to computers, anxiety about online learning, and motivation toward online learning. The researchers sought to answer three main questions with respect to African American students’ attitudes toward online learning experiences. The research questions are as follows:

1. Do African American students’ have favorable or unfavorable attitudes toward online learning?
2. Are African American student anxious or confident about online learning experiences?
3. Do African American students believe that online learning experiences are useful to them?
Although past research related to anxiety and motivation toward online learning is readily available, literature describing African Americans’ attitudes toward online learning, in particular, are sparse. The objective of the present research was to contribute information to a body of work that has implications for the technological advancement of underrepresented populations, namely, African American school-aged children.

**Method**

**Participants**

Data were collected from 124 African American students (76 girls and 48 boys) ranging from 7 to 16 years of age ($M = 10.43$, $SD = 1.34$). All students completed the questionnaire while participating in a positive youth development program in Memphis, Tennessee. More specifically, the youth were enrolled in a life skills training program that incorporated online tutoring in mathematics. These youth were referred to the program by teachers for meeting at least one of the risk characteristics stipulated by the program objectives. Among the risk characteristics for which students were referred to the program were difficulty in school subjects, disciplinary problems at home and/or at school, and living in a single-parent household. The majority of youth involved in this program were enrolled in schools located in areas with limited resources, so extensive experience with computers and online learning was not expected. Nearly 95% ($N = 118$) of the students attended schools within the urban school district whose percentage of students considered economically disadvantaged approaches was 86% ($N = 86,849$). In addition, the percentage of students who qualify for free or reduced lunch in these schools was approximately 89.9% ($N = 100,617$). These statistics suggest potential disparity in participants’ access to and use of technology at home or in school.

**Materials**

The Online Tutoring Attitudes Scale (OTAS), an adapted version of the Computer Attitudes Scale (CAS, Smalley, Graff, & Saunders, as cited in Graff, 2003) was used to identify psychological factors related to students’ attitudes toward online learning/tutoring. The OTAS is a 54-item scale that measures attitudes toward online learning/tutoring on four major subscales: (a) Favorable Attitudes Toward Computers and Online Learning, (b) Computer
Anxiety, (c) Computer Confidence, and (d) Usefulness of Computers (Graff, 2003). Sample items for each subscale include “When I am unable to figure out the answer to a problem, I will look to the online math tutor for help” (Favorable Attitudes Toward Computers and Online Learning); “I do not feel threatened when others talk about computers” (Computer Anxiety); “Being tutored online is a new experience for me” (Computer Confidence); and “Learning how to improve youth math skills online is worthwhile” (Usefulness of Computers). The instrument is scored on a 5-point Likert-type scale, where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The scale has demonstrated acceptable internal consistency reliability in previous and current use (α = .95 and .78, respectively). The internal consistency reliabilities for the subscales are given in Table 1.

### Table 1. Internal Consistency Reliability for the OTAS

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Alpha</th>
<th>No. of variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favorable attitudes</td>
<td>.54</td>
<td>20</td>
</tr>
<tr>
<td>Computer anxiety</td>
<td>.57</td>
<td>12</td>
</tr>
<tr>
<td>Computer confidence</td>
<td>.40</td>
<td>12</td>
</tr>
<tr>
<td>Usefulness of computers</td>
<td>.23</td>
<td>10</td>
</tr>
<tr>
<td>Overall</td>
<td>.78</td>
<td>54</td>
</tr>
</tbody>
</table>

Procedure

Trained facilitators and volunteers administered the OTAS to participants in a group setting before the start of the positive youth development program. The OTAS was, in fact, administered as a part of a larger battery of assessments. Although there was no time limit given, participants were able to complete the scale in approximately 30 min. Due to varying reading levels of students and possible difficulty with reading items, the facilitators read aloud the items to the students during the assessment.

Results

Students’ scores on the OTAS were converted to percentages to reflect attitudes toward online tutoring/learning. Percentages of responses are discussed for each dimension of the measure.
Favorable Attitudes Toward Online Learning

In general, students reported negative attitudes toward online learning. A significant number indicated that they are not interested in using the computer and did not believe that online learning experiences would have a positive influence on their academic experiences. Almost 65% (64.5%) of students indicated that they do not enjoy using the computer to complete school work. Furthermore, approximately 52% of students admitted that their attitudes toward working with online tutoring programs will remain the same, regardless of the possibility that they could become accustomed to online learning.

Computer Anxiety

Students did not report experiencing an anxiety toward computers; however, they stated that there was some discomfort when engaging in online learning experiences. Students reported that computers did not make them feel uncomfortable (71.8%). Furthermore, computers did not create a sense of unease or confusion for 68.5% of the students. Although students did not report feelings of anxiety toward computer experiences, they declared that the use of computers and online learning is a new experience for them (51.6%). Likewise, 54% of students did not believe that they will ever be comfortable using online tutoring in school subjects, particularly mathematics.

Computer Confidence

Students did not report high levels of confidence in working online. Sixty-seven percent of students were not confident in their use of computers. Eighty-eight percent of students believed that they would never like being tutored online. They conveyed the idea that neither are they the type of student who might do well with online tutoring experiences (60.5%) nor would they be able to learn new things using online tutoring methods (55.7%).

Usefulness of Computers and Online Learning

Students’ attitudes toward computers differed from their attitudes toward the usefulness of online learning. Fifty-five percent of students understood that computers could be frequently used in various settings, including home, school, and work. However, only 38% stated that online learning and tutoring were valuable. Students’ attitudes toward the usefulness of computers
and online learning signified preconceived ideas of futility. The majority of students (approximately 68%) did not use online learning and tutoring in other areas of their lives. Likewise, they considered these online experiences a waste of time. Almost 78% of students claimed that online tutoring cannot help them improve their mathematic skills.

Discussion

Existing research has been instrumental in the understanding of attitudes toward online learning. Recently, researchers have provided evidence for the waning disparities in the use and access to technology among racial/ethnic groups in society (U.S. Census Bureau, 2005; Webb, 2002). While this research has provided a promising view of the link between race/ethnicity and attitudes toward online learning, the present study was used to better understand the attitudes of one particular group in society rather than to provide comparisons with other groups.

The goal of the present study was to provide exploratory research findings in an effort to contribute to a better understanding of African American students’ attitudes toward online learning and tutoring. Our findings depicted a less than promising outlook for African American students in a growing technological age. A discussion of the inconsistency between attitudes toward computers and attitudes toward online learning and tutoring is warranted. Furthermore, the implications of these attitudes are relevant to intervention, educational achievement, and technological advancement with respect to minority populations.

Whereas students had experience working with computers, most had little or no experience with online learning applications. Furthermore, the ease with which they engage in computer activities did not transfer to their experiences with online learning opportunities. Qualitative research may offer insight into the perceived futility of online tutoring. Perhaps the disparity between attitudes can be attributed to the use of computers for personal use inside and outside of academic settings (e.g., computer games, MySpace, etc.; Willoughby, 2008). To explain, the personal or recreational use of computers was viewed as more favorable than the use of computers for academic and tutorial purposes. As the current study focused on students’ attitudes toward online tutoring in mathematics, continued research on attitudes toward online tutoring in other academic subject areas is warranted.

Students reported low levels of anxiety when asked about their general attitudes toward computers. On the contrary, they reported some level of anxiety about working with online learning and tutoring programs. Although,
it appears that a difference in anxiety exists between recreational use of the computer and the use of the computer for online learning purposes, caution must be used in making such conclusions. One limitation of this study is that anxiety as a result of learning in general was not measured; the OTAS assessed anxiety relative to the use of the computer as a medium for learning. It could be that the mere act of learning, particularly in mathematics, evokes anxiety more so than use of the computer during the learning process. Students’ anxiety does not seem to be a function of their interface with the computer alone. It is possible that this population of students already experiences increased levels of anxiety toward learning in general and the use of the computer to convey such learning compounds their levels of anxiety. Similarly, another explanation for the difference of attitudes in this regard is related to the anxiety that may be associated with encountering new experiences and fear of failure in evaluative domains. For many, online learning and tutoring was a completely new experience, so some anxiety may have resulted from exposure to the new learning experiences. Increased exposure and practice with online learning may have a different effect on students’ attitudes. In addition, students may believe that educational use of the computer may be associated with evaluative outcomes (e.g., grades), whereas recreational use of the computer is for fun and games (Eamon, 2004). The potential for positive or negative evaluation may be the fundamental source of anxiety for students when thinking about participating in online learning and tutoring. Similarly, students’ reported levels of confidence with computers reflected their reluctance to take part in online learning experiences. Students did not recognize the purpose of online learning experiences to enhance academic skills; in fact, they did not acknowledge the importance of these experiences in preparing them for their futures. As online learning experiences were unfamiliar to this particular sample, it may be that the advantages of such programs were obscure. The attitudes related to the usefulness of computers and online learning have particular implications for future investigation.

Future research examining the attitudes of African American children toward online learning experiences is necessary to understand the specific processes involved in the academic achievement and technological practices of this population. An adequate understanding of the antecedents and consequences of these attitudes will provide insight into the multilevel processes that influence the students’ decision to use technology. Likewise, an exploration of African American youth’s perceptions of computer technology for recreation and learning is important to the understanding of attitudes in this
domain. Research surrounding this topic will afford researchers, educators, and administrators the opportunities to implement interventions and programs that address these attitudes toward online learning.

**Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

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**References**


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