The Impact of Ethnically Matched Animated Agents (Avatars) in the Cognitive Restructuring of Irrational Career Beliefs Held by Young Women: Diverse Findings from Four Randomized Clinical Trials

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ABSTRACT

The Believe It! program developed and evaluated by Kovalski & Horan (1999) was the first interactive, multimedia, psychological-education intervention deployed on the Internet. In a controlled study, the authors reported that the ethnically diverse cartoon models were partially successful in using cognitive restructuring to promote more reasonable career beliefs among Caucasian middle-school young women. It was not clear if the program’s lack of efficacy among minority young women was due to computer literacy factors affected by SES. Subsequently, four studies explored the role of matching or mismatching the ethnicity of animated agents in a graphically enhanced program with young women receiving the cognitive restructuring treatment. Each of the studies used the same four outcome measures (Occupational Sex-Role Questionnaire, Believe It Measure, Career Beliefs Inventory, and the Career Myths Scale) before and after matched and mismatched participants received the Believe It! intervention. Webster (2010) analyzed data from African-American participants, Hardy (2011) Latinas, Zhang (2013) Asian-Americans, and Hacker (2014) ethnically isolated Caucasian young women. The current article reports that the results of these four studies are consistent with similar research involving live counselor and client dyads (e.g., Cabral & Smith, 2011). The Believe It! program had a clear impact on ethnically matched African-American young women, whereas pairings on ethnicity produced, at best, marginally improved outcomes for Latinas, Asian-Americans, and ethnically isolated Caucasian young women.

Keywords: Avatars, Believe It!, Career Beliefs, Cognitive Restructuring, Ethnicity

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INTRODUCTION

Despite career interests in elementary school starting at high levels, a large drop exists as children transition into middle school. This drop is even greater for girls than boys and is particularly noted in relation to STEM fields and perceived competency. Arguably, middle school is the best time for career intervention (see review in Milner, Horan, & Tracey, 2014).

Unfortunately, researchers and practitioners have found deficiencies in delivering services to African American, Latino, Asian American and rural populations. Sue, Fujino, Hu, Takeuchi, and Zane (1991) report that multicultural issues can be found in psychological assessment, treatment type, preference of therapist, utilization of services, premature termination rates, and effectiveness of traditional mental health services. Provasnik et al. (2007) noted that youth in rural America, particularly those in lower socioeconomic groups, have limited access to career counseling and college preparatory courses and are less likely to have access to Advanced Placement and International Baccalaureate courses. Often these populations are in school systems with overextended school counselors who gravitate toward working closely with students in upper grades regarding career and college information (Corwin, Venegas, Olverez, & Colyar, 2004); thus, career intervention rarely occurs in middle school.

Internet-based programs such as Believe It! (Kovalski & Horan, 1999) would facilitate career development for ethnic minority and majority young women in both urban and rural environments. Believe It! was the first interactive-multimedia, psychological-education intervention offered via the internet. It guides the user through an examination of the consequences of several restrictive beliefs about the future and offers alternative perspectives on career choice. The original version (Kovalski & Horan, 1999) used audio scripts delivered by cartoon figures representing four ethnic groups: Latina, African American, Asian, and Caucasian. Flash-animated characters were added in 2006.

Current multimedia instructional environments commonly involve similar lifelike computer characters that interact with program users. Such “animated agents” promote student learning by providing feedback, offering guidance, and serving as models for students (Baylor, 2005; Moreno, 2004; Moreno, Mayer, Spires, & Lester, 2001). Metaphorically, animated agents are tutors; however, when the tutors embody all characteristics of the learner, they are known as “avatars.” Although the Believe It! characters are capable of matching the learner on age, gender, and ethnicity, they are more properly classified as animated agents.

Similar to research on counselor-client preference, some studies on animated agents indicate that ethnic minority members are more likely to select characters that match their own ethnicity (Baylor, 2005; Moreno & Flowerday, 2005). When asked why, college student respondents were more likely to answer because of the ethnic and gender appearance of the agent (Baylor, 2005). The gender and ethnicity of animated agents are also related to perceptions about how enthusiastic or motivating the agent appears (Baylor, Ryu, & Shen, 2003). Baylor (2005) reported that agents designed to appear as ethnic minorities facilitated increased learning. Others have challenged the similarity-attraction hypothesis. Moreno and Flowerday (2005) asserted that ethnic similarity between animated agents and program users does not impact learning in a multimedia environment.

The original Believe It! study (Kovalski & Horan, 1999) suggested the program was promising for young Caucasian women but perhaps not for minority young women. The authors speculated that socioeconomic status related to unfamiliarity with computers, rather than ethnicity, may have been responsible. To clarify the role of ethnicity in the animated agent literature, Horan and his colleagues conducted four separate randomized clinical trials focused on the comparative effects of matching or mismatching the ethnicity of the animated agent to that of the participant. They
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www.igi-global.com/article/mobile-phone-use-and-stress-coping-strategies-of-medical-students/120038?camid=4v1a