Chapter 12
The Creation of a Theoretical Framework for Avatar Creation and Revision

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ABSTRACT

Multi-User Virtual Environments (MUVE) are increasingly being used in education and provide environments where users can manipulate minute details of their avatar's appearance including those traditionally associated with gender and race identification. The ability to choose racial and gender characteristics differs from real-world educational environments and raises interesting questions regarding the applicability of previous racial and gender research findings. Specifically, do racial and gender categorizations found in traditional classroom research convey to virtual worlds where gender and race are controllable? To explore this issue research related to racial and gender characteristics in traditional and MUVEs environments is considered. Additionally, the theories of classification and mental categorization, media equation theory, equalization hypothesis, and Social Identification Model of Deindividuation Effects are examined as potential foundations of understanding. Results of two pilot studies conducted to determine associations of avatar appearance with gender and racial classifications are discussed in relation to the development of a theoretical framework. Implications for future investigations are discussed.

INTRODUCTION

The Multi-User Virtual Environment (MUVE) is increasingly being used in education (Castronova, 2001; Johnson, Adams, Cummins, Estrada, Freeman, & Ludgate, 2013). These environments allow users to experience a graphically engaging world while interacting with others as an avatar (Lastowka & Hunter, 2004). One unique feature of these environments is that users can choose the physical appear-

ance of their avatar by customizing minute details frequently associated with race and gender (Damer, 1998; Lastowka & Hunter, 2004; Rehak, 2003). The ability to choose racial and gender characteristics differs from real-world traditional educational environments and raises interesting questions regarding the applicability of previous racial and gender research findings. Historically educational research demonstrated characteristics associated with race and gender were impactful in traditional classroom settings, with students and teachers negatively perceived based on race and gender (Braun, 1976; Brophy, 1983; Brophy & Good, 1974; Dusek, 1985; Finn, 1972; Irvine, 1986; Rist, 1970). However research relative to race and gender characteristics in MUVEs is limited and it remains to be seen if the user's ability to choose physical characteristics associated with an avatar impacts racial and gender stereotypical perceptions in these online educational environments. In other words, it is unclear if the racial and gender stereotypical perceptions that have been shown to occur in traditional classrooms will occur in multi-user virtual environments.

A few research studies have investigated and shed light on the effects of avatar appearance on the enforcement of gender and racial stereotypical perceptions. For example, negative cues, situations, and events – such as being exposed to an avatar that looks like a Ku Klux Klan member - seem to have stronger effects than more positive situations and outcomes (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Peña, Hancock, & Merola, 2009). Also, native Dutch participants expressed implicit racism towards avatars with a Moroccan appearance compared to avatars with a white appearance (Dotsch & Wigboldus, 2008). Gong (2008) showed that explicit racial prejudice predicted a greater preference for White avatars over Black ones when considering interactions as a friend and tutor. Finally, Rossen, Johnsen, Deladisma, Lind and Lok (2008) found that participant empathy towards a dark skin-tone virtual patient was predicted by their measured bias towards real life African-Americans. However, no research was found on the effect of teacher avatar appearance on the enforcement of gender and racial stereotypical perceptions among students.

RELATED WORK

Research on the effect of teacher avatar appearance on the enforcement of gender and racial stereotypical perceptions among students is important because of the precedent set in similar research in face-to-face environments showing that many physical characteristics are capable of evoking stereotypical perceptions and expectations, including race and gender (Braun, 1976; Brophy, 1983; Brophy & Good, 1974; Dusek, 1985; Finn, 1972; Ferguson, 2003; Auwarter & Aruguete, 2008; Wilkins, Chan & Kaiser, 2011). There is much research that shows the obstacles that racial minorities and women face in teaching. These barriers include but are not limited to social segregation, a slower pace of career development, and less mentors (Aguirre, Hernandez, & Martinez, 1994; Nakanishi, 1993; Olivas, 1988; Stanley, 2006; Stein, 1994; Turner, Gonzalez, & Wood, 2008). Bavashi et al (2010) state:

For example, data from 2007 show that Black, Asian, and White individuals make up 3.37%, 7.06%, and 85.28%, respectively, of full professors in colleges and universities while individuals in these same groups received 6.15%, 5.84%, and 56.21%, respectively, of the doctoral degrees awarded from 2006 to 2007 (Snyder, Dillow, & Hoffman, 2009).

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