

**Preparing HBCU Social Work Students for Leadership Through the Use of Virtual Reality
(VR) and Computer-Based Simulations**

Helen Fischle

Dr. Sebrena Jackson, Committee Chair

Dr. Curtis Davis, Committee Co-Chair

Submitted in partial fulfillment of the requirements
for the degree of
Doctor of Social Work
In the school of Social Work
at

The University of Alabama

TUSCALOOSA, ALABAMA

March 20, 2024

Abstract

Virtual Reality (VR) and computer-based simulations are increasingly used in higher education along with other Artificial Intelligence (AI) technologies to enhance teaching and learning in various disciplines as educators seek to create lifelike simulations replicating real-life situations. In social work education, the use of VR and computer-based learning is emerging, and multiple studies have shown that such technologies can effectively teach social work students micro-skills such as engagement, assessment, and interviewing, allowing them to practice these skills without harming clients. However, little is known about how VR and computer-based simulations can encourage insight and self-reflection, an essential part of leadership development as discussed in the Social Change Model of Leadership (SCM), with social work students who attend Historically Black Colleges and Universities (HBCUs). This article will examine how social work educators have used VR and computer-based simulations with their students, as well as discuss why further study is needed to investigate the use of VR and computer-based simulations as a leadership development tool with HBCU students in preparation to meet the Grand Challenges of Social Work through the use of technology.

Background

In today's rapidly evolving digital landscape, social service organizations increasingly integrate technology into their practice to address complex societal issues. Consequently, social work educators have the task of producing social workers capable of leading in the age of technology. Council on Social Work Education [CSWE] (2018) report proposed that, with future technological advancements, social workers need to be more creative and utilize leadership skills to address social justice issues within the professions. In addition, social workers may assume leadership roles within other disciplines concerned with addressing social problems). The use of virtual reality (VR), Mixed Reality (MR), Augmented Reality (AR), or computer-based simulations to improve client services is a critical step in the continued development of the population. Hence, it is imperative that social workers "harness technology for social good" (Berzin et al., 2016, p.1).

Technology and Social Work Education

Using technology to improve client services echoes the integration of technology to enhance education and accessibility to students. Thus, the overall use of technology in higher education has grown significantly, especially with increased distance education offered to learners from elementary to doctoral education. According to the National Center for Education Statistics [NCES] (n.d.), in 2021, the number of undergraduate students enrolled in at least one distance education course totaled 61% of all students in undergraduate education. In comparison, 28 % of all undergraduate students were enrolled only in distance education courses (NCES, n.d.). In 2021, the number of postgraduate students taking distance education courses ranged from 56% for taking at least one distance education course to 40% for those who took distance education courses only (NCES, n.d.).

For social work programs, most courses are offered entirely in person. However, a smaller percentage of Bachelor of Social Work (BSW) programs offer online courses in various formats such as “hybrid, blended, or hyflex” (all of which utilize online technology). While most courses for MSW programs are in person, a blend of online formats is also utilized (CSWE, 2021). With the ongoing and increased use of distance education in social work programs, the use of VR and computer-based immersive simulations as a learning tool can significantly assist social work educators in providing almost real-life situations whereby students can safely practice social work skills such as engagement and assessment whether they are taking in-person courses, but especially if enrolled in distance learning courses. VR, MR, AR, or computer-based immersive simulation are all viable options to enhance social work education in a technological age.

Virtual Reality and Computer-Based Simulation in Social Work Education

The 1960s saw the earliest version of VR technology when the Sensorama simulator, created by Morton Helig, provided users with an immersive experience as their sight, smell, and touch were stimulated to mimic a lifelike “motorcycle ride through New York City” (Burdea & Coiffet, 2003, p.3). Burdea and Coiffet (2003) describe VR as “a simulation in which computer graphics is used to create a realistic-looking world” (p. 2). Since the 1960s, the development and use of VR have grown significantly, and VR is widely used in the gaming industry (Burdea & Coiffet, 2003). However, it has also expanded into the medical field, teaching students how to perform various types of surgery (Joda et al., 2019) or other medical procedures (Sharma et al., 2022). In a systematic review of the use of VR and computer simulation impact on social work training, Huttar and BrintzenhofeSzoc (2020) state that “virtual reality and computer simulation

are defined on a spectrum as any computerized modality that requires interaction from the participant in a programmed environment” (p. 132).

Similarly, immersive simulation describes VR platforms like Second Life, where users have lifelike interactive experiences using avatars (Tandy et al., 2017). VR and computer-based simulations provide users with an experience as close to reality as possible. In social work education and training, VR or computer-based simulations can create lifelike scenarios based on situations or behaviors that social workers are likely to encounter in the field.

Application of Virtual Reality, Mixed Reality, and Computer-based Simulations

For social work, VR, MR, computer-based simulations, or human-powered AI immersive simulations have steadily increased in social work education. A few studies have documented the use and effectiveness of VR or AI technology as a teaching tool for social work competencies with BSW and MSW students. Huttar and BrintzenhofeSzoc (2020), through their systematic review of the studies on the use of VR in social work, found that VR technology in social work education has primarily focused on teaching “direct practice skills” (p. 138) social work skills rather than skills needed to work with organizations and communities.

The author of this paper established that VR and computer-based simulation platforms such as (a)Second Life used by Levine and Adams (2013), Martin (2017), Reinsmith-Jones et al. (2015), Tandy et al. (2017), and Wilson et al. (2013), and (b)Vocki used by Lee (2014), and (c) Kognito used by Hitchcock et al. (2019) have been used in social work to explore and or pilot the use of VR in social work as stated by Huttar and BrintzenhofeSzoc (2020) in their systematic review of the literature. Huttar and BrintzenhofeSzoc (2020) also noted that VR technology design in social work is for use with social work students rather than with professionals working in the field. Problems with participants efficiently operating VR technology were also an issue

that surfaced in some of the studies within their systematic review. Huttar and BrintzenhofeSzoc (2020) stated, “The literature reveals the nascent state of virtual reality and computer simulation in social work education through pilot studies and demonstration projects. There is a lack of effectiveness research” (Hutter & BrintzenhofeSzoc, p. 139).

However, the benefits noted in the above studies included students being able to “safely practice” (Huttar & BrintzenhofeSzoc, 2020, p. 139) various social work practice skills and an opportunity to use VR to address multiple social problems creatively. While the studies identified by Huttar and BrintzenhofeSzoc (2020) included BSW and MSW students, none were conducted with students attending HBCUs.

The study by Reinsmith-Jones et al. (2015) consisted of 70 students, of whom 13 were African American. Hitchcock et al. (2019) had 23% of the 100 participants who completed the study as African American. In contrast, Lee (2014) indicated that the study was conducted at a university with a high representation of African Americans. In summary, of the few studies (most of which have been pilot studies) conducted with VR and social work students, there is little known in the literature about the use and effectiveness of VR and computer-based simulation with HBCU students, much less how it can be used in teaching leadership skills to social work with students who attend HBCUs.

Nevertheless, various HBCUs, Minority Serving Institutions (MSIs), and Hispanic Serving Institutions (HSIs) have successfully used VR in their curriculum or support services on their campus. These higher HBCUs, MSIs, and HSIs included Bowie State University, Morehouse University, Northern Virginia Community College, Arizona State University, and Los Angeles City Community College (Lee et al., 2022).

Similarly, the design of VR simulations in education addresses racism and bias, such as the ‘1,000 Cuts Simulation’ created by Cogburn et al. (2018) and ‘Passage Home’ by Olson and Harrell (2020). In their study, Peck et al. (2013) involved users being put in “black-skinned avatars to decrease implicit racial bias” (p.779). Undoubtedly, there is an opportunity to explore how HBCUs utilize VR and computer-based technology in their curriculum.

Leadership Development in Social Work and How VR and Computer-Based Simulation Can Be Used

With the growing use of technology in social work education, it is also imperative for social work educators to consider how to use VR and computer-based simulation to promote effective leadership training in social work to stem the hemorrhage of social workers leaving the social work profession. Leadership training is vital in child welfare work, where there have been ongoing high turnover rates (approximately 23 %-60%) resulting in programs such as Title IV-B– Child Welfare, established to provide “necessary support for the child welfare workforce” (Child Welfare League of America [CWLA], 2022, para 1).

Various studies and projects have demonstrated how computer-based simulations and VR have been used to help improve social work students’ engagement, assessment, and interviewing skills, all of which are necessary for social workers in child welfare and other areas of social work. For example, Casey and Powell (2022) used an e-simulation to help students improve their interviewing skills by utilizing open-ended questions when interviewing a “child avatar” (p. 1258). Their study found that using the e-Simulation helped increase students’ use of open-ended questions and self-awareness. Additionally, the e-Simulation was an opportunity for students to practice interviewing a child in a safe way that caused no emotional, psychological, or physical injury (Casey & Powell, 2022). In a study by Wilson et al. (2013), a Second Life simulation with

avatars provided social work students with the opportunity to conduct a home visit where they could practice “engagement and assessment skills” (Wilson et al., 2013, p. 429).

Tandy et al. (2017) also utilized Second Life with a Chatbot feature in a study to help MSW social work students practice their interviewing skills. The students in the study also reported that using the simulation helped them think about their interviewing skills and allowed them to correct mistakes. To address cultural competence, Lee (2014) conducted a pilot study that used avatars in Voki, where MSW students interacted with each other in a “virtual cocktail” (p. 97) party as diverse characters through the use of avatars.

The results of the study reported that using avatars was an effective tool in cultural competence training for the students, and as indicated in similar studies with VR and computer-based simulation, created an opportunity for them to practice social work skills in a safe space. However, a study by Martin (2017) that used Second Life to improve social work students’ communication skills found that using Second Life VR technology was ineffective. Also, students found it challenging to use and preferred in-person communication experiences. Martin (2017) posits, “The virtual world needs to offer something extra that cannot be provided face to face, such as increased complexity or communication with others who are not present” (p. 205).

Successful Integration

The studies above demonstrate that VR and computer-based simulation can successfully implement social work curricula. Students are presented with immersive simulations representing everyday challenges they will face in the field. Participation in the VR simulations, created explicitly for the social work curriculum, allows students to safely practice required social skills in preparation for the real world.

Additionally, the use of VR and computer-based simulations can provide social work programs that are grappling with funding and space to create in-person simulation labs and the opportunity to create immersive simulations in a virtual world which is more economical and accessible to social work programs that lack the financial infrastructure or space to create an in-person simulation lab. Egonsdotter and Israelsson (2024) noted that one of the advantages of computer-based simulations is that social work students can practice the same skills no matter where they are completing their field placements. Additionally, computer-based simulations can help to bridge the gap in practice opportunities when there is a lack of field placements for students to practice their social work skills (Egonsdotter & Israelsson, 2024).

Ethical Considerations

While the benefits of using VR and computer-based simulations are advantageous to enhancing social work education and practice, there are ethical considerations that users of VR and researchers should consider. Behr et al. (2005) concluded that because VR experiences can be such focused, immersive experiences, they can cause “motion sickness” and “information overload” (p. 670) among users. As a result, “participants should be screened carefully for susceptibility to potential problems connected to participation” (Behr et al., 2005, p. 673).

Additionally, VR users should have advanced information about the VR experience to adequately make an informed decision about whether or not they want to engage in the VR experience (Behr et al., 2005). Additionally, since VR use can potentially have a physical or emotional impact on its users, individuals utilizing this technology in their research or coursework must provide users with adequate information about potential hazards related to its use (Behr et al., 2005).

Marloth et al. (2020) also emphasized the importance of considering ethics when using VR in clinical settings, especially as it relates to how reality is depicted in VR spaces and autonomy (the extent to which its creators control VR simulations and how it impacts the autonomy of its users). As a result, it is essential to develop a framework and guidelines for the ethical use of VR to guide its increasing use in therapeutic interventions (Marloth et al., 2020). Similarly, it is imperative that future research on the use of VR and computer-based simulations in social work also includes the development and implementation of ethics to protect its users during research activities or classroom experiences.

VR and Computer-Based Simulations as a Leadership Development Tool for HBCU Students

As we consider the use of VR and computer-based simulations, the impact of VR and computer-based simulations on leadership training for African American social work students and professionals must be established and analyzed in the literature. When looking at African American Social Workers in leading the way to address the GCSW, Rodgers and Lopez-Humphreys (2020) noted that Black women in social work are often the “Outsider within Leadership” (OWL) in the profession because of their race and status in society. Therefore, “Black women are outsiders in social work, but they are also ‘within’ social work, and their ‘within’ position gives them the power to affect positive change, specifically carry out work to overcome the GCSW” (Rodgers & Lopez-Humphreys, 2020, p. 399). This observation, as noted by Rodgers and Lopez-Humphreys (2020), on Black women in leadership is significant. It supports the need for focused leadership training in social work programs at HBCUs, traditionally the Center for Black Leadership Development in the United States.

The notion of effective leadership development among Blacks is further supported in that, according to the U.S. Department of Education (2015), HBCUs have historically created leaders in the United States and “have enabled men and women of all ethnic, racial, and economic backgrounds, especially African Americans, to assume leadership and service roles in their communities” (p. 1). Ross-Sheriff et al. (2017) assert that HBCUs’ success is related to its ability to provide an atmosphere that is warm and nurturing (“family-like”) where students are supported by faculty, staff, and each other. Therefore, HBCUs are in an excellent position to train Black social work students to take on leadership roles. Nonetheless, there must also be a focus on doing so strategically and intentionally.

However, while being enrolled at HBCUs, African American students may not have time to engage in extracurricular activities such as student organizations, clubs, and social organizations that can help develop leadership skills because they often work many hours to support themselves financially and thus need alternative avenues to build leadership skills. For example, Perna and Odle (2020) noted that according to the NCES, African American students in full-time education were more likely to work over “35 hours” or more per week than White students (para. 8). Therefore, offering leadership training using VR or computer-based simulation that allows students to log into computer-based immersive simulations from their own homes can be an effective alternative for practicing skills such as engagement, assessment and interviewing for African American students.

Richards and Awokoya (2012) noted that HBCUs have historically served students from low-income families and are the first in their families to go to college. Therefore, with the acknowledgment of HBCUs being a change agent in the development of Black leadership in the USA, academic mentoring and leadership development accessible to all students are imperative

as they matriculate through higher education into the national and global workforce. Even with the growing number of studies conducted on VR and computer-based simulations, the researcher of this paper did not find any studies that specifically focused on social work leadership training conducted with participants from HBCUs.

The Social Change Model of Leadership (SCM) as a Theoretical Framework for Leadership Development Using VR and Computer-Based Simulation

According to the CSWE (2022), “Social work education at the baccalaureate, master’s, and doctoral levels shape the profession’s future through the education of competent professionals, the generation of knowledge, the promotion of evidence-informed practice through scientific inquiry, and the exercise of leadership” (p. 5). Even so, leadership in social work has only sometimes been clearly defined (Iachini et al., 2015; Sullivan, 2016).

Holosko (2009) identified that the essential qualities (core attributes) of a leader consisted of “(a) vision, (b) influencing others to act, (c) teamwork/collaboration, (d) problem-solving capacity, and (e) creating positive change” (p. 454). In response to the “core attributes” of leadership identified by Holosko (2009), Sullivan (2016) states that social work educators must create a curriculum that incorporates Holosko’s (2009) “core attributes” of leadership in social work. The idea of leadership development for social work students is further justified by Choi et al. (2015), who found that only a small number of MSW graduates in their study ended up in management positions and or participated in activities one would associate with being in a leadership role once they graduated.

In regards to leadership development for undergraduate students, the Higher Education Research Institute, the University of California, University of Los Angeles in 1994, created a Social Change Leadership Model (SCM) Guidebook, which has since been used extensively in

higher education to teach leadership skills to students (Higher Education Research Institute, 1996). Komives and Wagner (2017) stated that the SCM views “leadership as a purposeful, collaborative, values-based process that results in positive change” (p. xii).

The SCM holds that leadership takes place on three levels: “individual, group, and society/community” (Komives & Wagner, 2017, p. 19), each impacting the others. Additionally, within the three levels of the SCM are seven values known as the 7 C’s of leadership development of social change, as described below (Komives & Wagner, 2017, p. 21):

- Individual Values – (a) Consciousness of self, (b) Congruence, (c) Commitment
- Group Process Values – (d) Collaboration, (e) Common Purpose, (f) Controversy with Civility
- Community/Societal Values – (G) Citizenship

Without a doubt, the values at the core of the SCM align almost seamlessly with the values delineated in the NASW Code of Ethics and the competencies that schools of social work accredited by CSWE are required to teach to prepare social work students to work with individuals, groups, communities, and organizations (CSWE, 2022). However, when one asks how leaders develop, the author of this paper suggests that one must first look at leadership development on the individual level, as social workers have to use themselves (who they are) to engage with clients effectively; various theories and models in leadership development as well as the SCM support this concept, where, *Individual values – consciousness of self*, views self-awareness as recognized as being a critical component of leadership development among students (Higher Education Research Institute, 1996).

Komives and Wagner (2017) describe “consciousness of self as awareness of personal beliefs, values, attitudes, and limitations. Self-awareness, conscious mindfulness, introspection,

and continual personal reflection are foundational elements of the leadership process” (p.21). In terms of the implementation of the SCM, Tugas (2019) discussed the process of implementing the SCM for a student employment program at a large university where, as part of the process, conduction of two workshops (one hour each) focused on the SCM value of ‘Consciousness of Self’ among other components of the model.

Similarly, the SCM implementation should be considered as a leadership development model within social work departments and their student organizations as they seek to prepare students to advocate for social change. More specifically, the discussion on “Consciousness of Self” as it relates to self-awareness and self-reflection is critical for leadership development in Black/African Americans where they are required to conform to White culture and thus develop “double consciousness,” which ultimately impacts how they may negatively perceive and work with Black children and families within the child welfare system (Cantey et al., 2022).

“Awareness of self could propel Black practitioners to become anti-racist and attempt to discontinue upholding racist policies and structures” (Kendi, 2019, as cited in Cantey et al., 2022, p. 176). Therefore, the use of VR simulations that allow students to engage in immersive simulations could assist African American social work students in exploring “awareness of self” (Kendi, 2019, as cited in Cantey et al., 2022, p. 176) and consciousness of self as described in the SCM (Komives & Wagner, 2017).

The idea of self-consciousness through reflection and insight is further supported by Egonsdotter and Israelsson (2024) in their scoping review of the use of computer-based simulation in social work, where they state the following:

There are primarily two didactic forms of computer-based simulation used in social work education. The first of this variant has as its primary goal to convey practice skills

specific for the social work profession, that is, procedural competence, such as motivational interviews. The second variant—which is less common, has its main purpose to enhance students’ cognitive abilities, self-reflection, or critical thinking, that is, students’ meta-competencies. (p. 50)

Egonsdotter and Bengtsson (2023) also found in their study with SimChild (a computer-based simulation) that students’ level of self-reflection increased with use as students were required to make decisions about a child welfare case. Similarly, Jenkins and Pickett (2022) assert that educators can use various virtual games to help students develop leadership skills. Jenkins and Pickett (2022) posit that implementing virtual games, in partnership with an organized leadership curriculum requiring students to process and reflect on what they learned from playing the games, created an opportunity to practice leadership skills during immersive simulations that reflect real-life situations.

AI Technology in the US Workforce and Educational System

Undoubtedly, AI technology is here to stay in the US workforce and educational system. As stated by President Joe Biden (2023), the above observations are vital: “Harnessing AI for good and realizing its myriad benefits requires mitigating its substantial risks. This endeavor demands a society-wide effort that includes government, the private sector, academia, and civil society” (para. 1). Therefore, with the growth of online education in social work education, the integration of VR and computer-based simulations powered by AI technology and human power, along with virtual online programs, should be considered as an accompaniment and or addition to in-person simulations and role-playing as a way for social work students to develop leadership skills as reflected within the framework of the SCM and as described in CSWE (2022).

The Use of VR and Computer-Based Simulations: Emerging Research

A review of previous studies on using VR and computer-based simulation in social work education has demonstrated that research in this area is emerging (Huttar & BrintzenhofeSzoc, 2020). Nevertheless, the growing studies on VR and computer-based simulation in social work show the benefits of using VR in the curriculum (Huttar & BrintzenhofeSzoc, 2020; Lee, 2014; Yildirim & Şahin, 2020)—with the need for more research in the area of VR effectiveness in teaching HBCU students social work skills identified in the literature and the necessity to address the problem of high turnover in areas such as child welfare social work through the use of supportive leadership, which starts with leaders being able to engage in self-reflection and use of self (National Child Welfare Workforce Institute [NCWWI], (2020).

However, what still needs to be clarified is the use of VR and computer-based simulation as an intervention to increase self-reflection and insight in HBCU social work students and prepare them for leadership roles. It is vital to conduct more studies that quantitatively or qualitatively analyze VR as a training tool for HBCU social work students in leadership development. Additionally, research on using VR and computer-based simulations is needed as HBCU social work programs continue to utilize technology to provide accessible programs to students through online programs and meet the demand for social work leaders in the profession.

Consequently, to investigate the usefulness of VR and computer-based simulation as a leadership training tool with HBCU social work students, a study will be conducted by the researcher of this paper with MSW students at an HBCU. The study will utilize an educational platform that provides human-powered AI immersive simulations that focus on leadership scenarios using avatars operated by human actors. Furthermore, participants will observe an online panel discussion where leaders in social work will discuss their use of self-reflection and

insight in their leadership development and practice. The effectiveness of the panel discussion and human-powered AI immersive simulations (everything will be virtual) will be evaluated through a validated scale as a pre-and post-test and a focus group.

Extrapolated Results

The results from the proposed study will help to fill the gap and add to the existing knowledge that exists in research on social work, VR, and computer-based simulations, as noted by the scoping reviews conducted by Huttar and BrintzenhofeSzoc (2020) and Egonsdotter and Israelsson (2024). Furthermore, the proposed study will highlight how VR and computer-based simulations impact African American social work students; this can help bridge the digital divide so that HBCUs are not left behind in using technology to create opportunities for social work students to improve their social work and leadership skills.

Additionally, the author hopes that the results from the study will be used to support the use and funding of human-powered AI immersive simulations currently being used as part of a child welfare simulation lab at their institution (an HBCU) as well as other HBCUs and social work programs that are interested in incorporating VR and computer-based simulation into their social work curriculum to strengthen how they prepare students to meet the demands of society in their work with individuals, families, groups, and communities in a technological age.

The Grand Challenges of Social Work and Future Opportunities

Without question, research involving VR and computer-based simulations in social work education is emerging. Nevertheless, it holds many opportunities for the future of social work education, leadership, and practice in the 21st century. These opportunities include the systematic inclusion of VR, AI, AR, MR, and computer-based simulation in social work courses on an undergraduate and graduate level, cross-disciplinary collaboration between social work

and technology companies to create immersive learning experiences, the development of social work leadership training curriculum, and also the creation of VR and computer-based simulations that are impactful with diverse social work students and practitioners.

Furthermore, the possibilities for innovation, creativity, and cutting-edge use of technology in social work are exciting and necessitate future research, assessment, and evaluation. As discussed in the Grand Challenges of Social Work, the profession of social work must respond to the call to “harness to technology for social good” (Berzin et al., 2016, p.1) as we aim to work smarter and harder with a keen eye looking towards the future.

References

- Behr, K.-M., Nosper, A., Klimmt, C., & Hartmann, T. (2005). Some practical considerations of ethical issues in VR research. *Presence, 14*(6), 668–676.
<https://doi.org/10.1162/105474605775196535>
- Berzin, S. C., Coulton, C. J., Goerge, R., Hitchcock, L., Putnam-Hornstein, E., Sage, M., & Singer, J. (2016). *Policy recommendations for meeting the Grand Challenge to harness technology for social good*. American Academy of Social Work and Social Welfare.
https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1791&context=csd_research
- Burdea, G. C., & Coiffet, P. (2003). *Virtual reality technology* (2nd ed.). John Wiley & Sons.
- Cantey, N. I., Smith, L. W., Sorrells, S. F., Kelly, D., Jones, C., & Burrus, D. (2022). Navigating racism in the child welfare system: The impact on Black children, families, and practitioners. *Child Welfare, 100*, 163–184.
<https://www.proquest.com/docview/2724913639?sourcetype=Scholarly%20Journals>
- Casey, S., & Powell, M. B. (2022). Usefulness of an e-Simulation in improving social work student knowledge of best-practice questions. *Social Work Education, 41*(6), 1253–1271.
<https://doi.org/10.1080/02615479.2021.1948002>
- Child Welfare League of America. (2022). *Hot topic: Strengthen the child welfare workforce*.
<https://www.cwla.org/wp-content/uploads/2022/04/2022HotTopicWorkforce.pdf>
- Choi, M. J., Urbanski, P., Fortune, A. E., & Rogers, C. (2015). Early career patterns for social work graduates. *Journal of Social Work Education, 51*(3), 475–493.
<https://doi.org/10.1080/10437797.2015.1043198>
- Cogburn, C. D., Bailenson, J., Ogle, E., Asher, T., & Nichols, T. (2018). 1000 cut journey. *ACM SIGGRAPH 2018 Virtual, Augmented, and Mixed Reality*, 1.
<https://doi.org/10.1145/3226552.3226575>

Council on Social Work Education. (2018). *Envisioning the future of social work: Report of the CSWE Futures Task Force*.

Council on Social Work Education. (2021). *2020 statistics on Social Work Education in the United States*. <https://www.cswe.org/getattachment/726b15ce-6e63-4dcd-abd1-35d2ea9d9d40/2020-Annual-Statistics-On-Social-Work-Education-in-the-United-States.pdf?lang=en-US>

Council on Social Work Education. (2022). *Educational policy and accreditation standards*. <https://www.cswe.org/getmedia/bb5d8afe-7680-42dc-a332-a6e6103f4998/2022-EPAS.pdf&cLen=539839&chunk=true&pdfilename=2022-EPAS.pdf>

Egonsdotter, G., & Bengtsson, S. (2023). Reflections in case-based learning: Experiences of computer-based simulations in social work education. *Journal of Social Work Education*, 59(4), 964–976. <https://doi.org/10.1080/10437797.2022.2033655>

Egonsdotter, G., & Israelsson, M. (2024). Computer-based simulations in social work education: A scoping review. *Research on Social Work Practice*, 34(1), 41–53. <https://doi.org/10.1177/10497315221147016>

Higher Education Research Institute. (1996). *A social change model of leadership development* (Vol. 3). The Regents of The University of California. <https://www.heri.ucla.edu/PDFs/pubs/ASocialChangeModelofLeadershipDevelopment.pdf>

Hitchcock, L. I., King, D. M., Johnson, K., Cohen, H., & Mcpherson, T. L. (2019). Learning outcomes for adolescent SBIRT simulation training in social work and nursing education. *Journal of Social Work Practice in the Addictions*, 19(1–2), 47–56. <https://doi.org/10.1080/1533256x.2019.1591781>

- Holosko, M. (2009). Social work leadership: Identifying core attributes. *Journal of Human Behavior in the Social Environment*, 19(4), 448–459.
<https://doi.org/10.1080/10911350902872395>
- Huttar, C. M., & BrintzenhofeSzoc, K. (2020). Virtual reality and computer simulation in social work education: A systematic review. *Journal of Social Work Education*, 56(1), 131–141.
<https://doi.org/10.1080/10437797.2019.1648221>
- Iachini, A. L., Cross, T. P., & Freedman, D. A. (2015). Leadership in social work education and the social change model of leadership. *Social Work Education*, 34(6), 650–665.
<https://doi.org/10.1080/02615479.2015.1025738>
- Jenkins, D. M., & Pickett, M. L. (2022). Getting your leadership game on in virtual environments. *New Directions for Student Leadership*, 2022(174), 63–71.
<https://doi.org/10.1002/yd.20500>
- Joda, T., Gallucci, G. O., Wismeijer, D., & Zitzmann, N. U. (2019). Augmented and virtual reality in dental medicine: A systematic review. *Computers in Biology and Medicine*, 108, 93–100. <https://doi.org/10.1016/j.combiomed.2019.03.012>
- Komives, S. R., & Wagner, W. (2017). *Leadership for a better world: Understanding the social change model of leadership development* (2nd ed.). Jossey-Bass.
- Lee, E.-K. O. (2014). Use of avatars and a virtual community to increase cultural competence. *Journal of Technology in Human Services*, 32(1–2), 93–107.
<https://doi.org/10.1080/15228835.2013.860364>
- Lee, N. T., Ray, R., Lai, S., & Tanner, B. (2022, September 6). Ensuring equitable access to AR/VR in higher education. *The Brookings Institution*.
<https://www.brookings.edu/articles/ensuring-equitable-access-to-ar-vr-in-higher-education/>

Levine, J., & Adams, R. H. (2013). Introducing case management to students in a virtual world:

An exploratory study. *Journal of Teaching in Social Work*, 33(4–5), 552–565.

<https://doi.org/10.1080/08841233.2013.835766>

Marloth, M., Chandler, J., & Vogeley, K. (2020). Psychiatric interventions in virtual reality:

Why we need an ethical framework. *Cambridge Quarterly of Healthcare Ethics: CQ:*

The International Journal of Healthcare Ethics Committees, 29(4), 574–584.

<https://doi.org/10.1017/s0963180120000328>

Martin, J. (2017). Virtual worlds and social work education. *Australian Social Work*, 70(2), 197–

208. <https://doi.org/10.1080/0312407x.2016.1238953>

National Center for Education Statistics. (n.d.). *Distance learning*.

National Child Welfare Workforce Institute. (2020). *Leadership competency framework guide*.

<https://ncwwi.org/document/leadership-competency-framework-guide/>

Olson, D. M., & Harrell, D. F. (2020). “I don’t see color”: Characterizing players’ racial attitudes

and experiences via an anti-bias simulation videogame. *International Conference on the*

Foundations of Digital Games, 1–4. <https://doi.org/10.1145/3402942.3409783>

Peck, T. C., Seinfeld, S., Aglioti, S. M., & Slater, M. (2013). Putting yourself in the skin of a

black avatar reduces implicit racial bias. *Consciousness and Cognition*, 22(3), 779–787.

<https://doi.org/10.1016/j.concog.2013.04.016>

Perna, L. W., & Odle, T. K. (2020). Recognizing the reality of working college students. *Aaup*.

<https://www.aaup.org/article/recognizing-reality-working-college->

[students#:~:text=The%20US%20Department%20of%20Education%20reports%20that%2C%20in](https://www.aaup.org/article/recognizing-reality-working-college-students#:~:text=The%20US%20Department%20of%20Education%20reports%20that%2C%20in)

[_compared%20with%209%20percent%20of%20white%20full-time%20students](https://www.aaup.org/article/recognizing-reality-working-college-students#:~:text=The%20US%20Department%20of%20Education%20reports%20that%2C%20in_compared%20with%209%20percent%20of%20white%20full-time%20students)

President Joe Biden. (2023, October 30). Executive Order on the safe, secure, and trustworthy

development and use of artificial intelligence. *The White House*.

<https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/>

- Reinsmith-Jones, K., Kibbe, S., Crayton, T., & Campbell, E. (2015). Use of second life in social work education: Virtual world experiences and their effect on students. *Journal of Social Work Education, 51*(1), 90–108. <https://doi.org/10.1080/10437797.2015.977167>
- Richards, D. A. R., & Awokoya, J. T. (2012). *Understanding HBCU retention and completion*. UNCF. https://uncf.org/wp-content/uploads/PDFs/Understanding_HBCU_Retention_and_Completion.pdf
- Rodgers, S. T., & Lopez-Humphreys, M. (2020). Social work leadership: Grand challenges for Black women. *Social Work, 65*(4), 397–400. <https://doi.org/10.1093/sw/swaa041>
- Ross-Sheriff, F., Berry Edwards, J., & Orme, J. (2017). Relational mentoring of doctoral social work students at Historically Black Colleges and Universities. *Journal of Teaching in Social Work, 37*(1), 55–70. <https://doi.org/10.1080/08841233.2016.1270250>
- Sharma, S., Tuli, N., & Mantri, A. (2022). Role of virtual reality in medical field. *AIP Conference Proceedings*, 1–8. <https://doi-org.libdata.lib.ua.edu/10.1063/5.0080597>
- Sullivan, W. P. (2016). Leadership in social work: Where are we? *Journal of Social Work Education, 52*(sup1), S51–S61. <https://doi.org/10.1080/10437797.2016.1174644>
- Tandy, C., Vernon, R., & Lynch, D. (2017). Teaching note—teaching student interviewing competencies through second life. *Journal of Social Work Education, 53*(1), 66–71. <https://doi.org/10.1080/10437797.2016.1198292>
- Tugas, F. (2019). Applying the social change model of leadership development to the practice of student employment. *New Directions for Student Leadership, 2019*(162), 121–130. <https://doi.org/10.1002/yd.20338>

U.S. Department of Education. (2015). *2013 annual report to the President on the results of the participation of Historically Black Colleges and Universities in Federal Programs*.

<https://sites.ed.gov/whhbcu/files/2011/12/HBCU-2013-Annual-Report-HBCU-final-.pdf>

Wilson, A. B., Brown, S., Wood, Z. B., & Farkas, K. J. (2013). Teaching direct practice skills using web-based simulations: Home visiting in the virtual world. *Journal of Teaching in Social Work*, 33(4–5), 421–437. <https://doi.org/10.1080/08841233.2013.833578>

Yildirim, B., & Şahin, F. (2020). Simulation applications: A potential approach for Turkish social work education [Simülasyon uygulamaları: Türk sosyal hizmet eğitimi için potansiyel bir yaklaşım]. *Toplum ve Sosyal Hizmet*, 31(3), 1227–1247.

<https://doi.org/10.33417/tsh.664437>