

August 2019

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Recommended Citation

Wilkinson, Tyler and Bazile, Kathleen (2019) "Counseling students' experiences viewing virtual reality case studies," *Teaching and Supervision in Counseling*. Vol. 1 : Iss. 2 , Article 6.

<https://doi.org/10.7290/tsc010206>

Available at: <https://trace.tennessee.edu/tsc/vol1/iss2/6>

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Counseling students' experiences viewing virtual reality case studies

Cover Page Footnote

This research was partially supported by a grant from our University's Provost Office.

Counseling Students' Experiences Viewing Virtual Reality Case Studies

Tyler Wilkinson, Kathleen E. Bazile

■ Virtual reality is a technological medium that provides a three-dimensional interactive environment in which individuals become immersed and, in some cases, manipulate the environment. This technology shows promise in applications with simulated educational experiences. Most of the applications discussed in the literature have involved medical training programs that attempted to use virtual reality for simulated patient–medical professional interactions. Research is lacking on the potential applications of virtual reality with counselor training. We applied virtual reality technology with counseling students at different points in their training programs and exposed them to virtual counseling situations. The participants in this phenomenological study indicated that simulated counseling situations felt more authentic than traditional role-plays and encouraged their use early in counselor training programs. Future applicability in counselor training, limitations, and research recommendations are discussed.

Keywords: simulated education, counselor training, virtual reality

In most counselor training programs, students are not subjected to actual clinical scenarios until they begin their practicum or internship experiences, which they practice under supervision. Early in their development and education, counseling students may be subjected to a myriad of training and pedagogical strategies that include lectures, classroom role-plays, case studies, and supervised practice to help students develop counseling skills and knowledge (Beutler & Harwood, 2004; Council for Accreditation of Counseling and Related Educational Programs [CACREP], 2016). Traditional counseling

training methods may have their limitations; for example, didactic lectures can provide cognitive knowledge, but they may not be the best way to train students in the application of counseling skills (Beutler & Harwood, 2004) since they are designed to be a one-way flow of information with students not providing a skill in return. In addition, role-plays may allow the application and assessment of skills (Beutler & Harwood, 2004; Fairburn & Cooper, 2011), but the individual representing the client may have difficulties consistently and convincingly portraying actual clinical situations. Role-plays also do not provide a con-

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sistent, constant stimulus from which instructors can evaluate students' counseling performance (Beutler & Harwood, 2004). Although these traditional forms of training may help counselors develop knowledge and technical skills, they may not necessarily increase counselors' abilities to deal with the abstract, complex concepts that unfold during the therapeutic interactional process (Granello, 2010; Henry, Strupp, Butler, Schact, & Binder, 1993; Stein & Lambert, 1995). Despite these limitations, counseling training methods have changed little over the years (Fairburn & Cooper, 2011).

Many students experience symptoms of anxiety as they begin counselor education programs due to the demands of graduate training and the unique demands associated with the role of a counselor (Granello, 2010; Oswalt & Riddock, 2007). One unique demand on counselors is the ability to deal with situations that require high levels of cognitive complexity (Granello, 2002) whereby students need to identify, integrate, and use multiple perspectives and large amounts of information to create comprehensive conceptualizations of their clients (Fong, Borders, Ethington, & Pitts, 1997; Granello, 2010). Increases in students' cognitive complexity have been demonstrated during counselor training, with students at the end of counseling programs (i.e., post-internship) exhibiting more complex thinking than students at the beginning of programs (Choate & Granello, 2006). Moreover, Skovholt and Ronnestad (1992) found that individuals continue to develop complex cognitive skills after more than 10 years of practice. These studies seem to demonstrate that exposure to and experience with actual counseling situations is a component of counselor development that may help reduce anxiety. However, students are typically not exposed to more authentic experiential counseling situations until they undertake supervised field experiences. Thus, students may be required to work in high-risk environments or difficult clinical situations (e.g., suicide threats, substance use behaviors, or trauma narratives) with

little experience (Beutler & Harwood, 2004; Osborn, Dean, & Petruzzi, 2004).

VR as Pedagogical Tool

Technological advancements such as virtual reality (VR) show some promise for creating opportunities for controlled, experiential learning within virtual clinical to increase exposure to higher-risk situations that would allow assessments of students' dispositional and clinical reactions prior to their field experience contexts (Beutler & Harwood, 2004; Padilha, Machado, Ribeiro, & Ramos, 2018). VR is a type of software integration in which users can immerse themselves into a virtual environment with varying levels of interaction and manipulation (Riva, 2005). VR can be experienced on a traditional screen where the user can touch the screen and manipulate the view, or users can participate in a more immersive event using a VR headset that allows them to experience the environment from within and control their views based on where they are looking. The types of environments available in VR vary. Some consist of digital, computer-generated worlds completely created by a programmer with a video game-like feel; others are captured from the real world using advanced video cameras that can record in 360 degrees, with the users' points of view being from the perspective of the camera. This type of technology has primarily been applied to video gameplay; however, some recent attempts have been made to apply this technology to create experiential, simulated educational opportunities (Padilha et al., 2018; Riva, 2005) and as a clinical tool in exposure therapy to treat PTSD (Rizzo et al., 2008), social anxiety (Sarver, Beidel, & Spitalnick, 2014), and various phobias (Parsons & Rizzo, 2008; Stupar-Rutenfrans, Ketelaars, & van Gisbergen, 2017) and to provide pain management (Wiederhold, Gao, Sulea, & Wiederhold, 2014).

Access to VR in educational settings has increased in popularity due to the technology's improved accessibility and affordability (Kean, 2017). The use of VR as an educational training tool has primari-

ly been developed and utilized in the medical fields to increase the felt authenticity of clinician–patient interactions for student training (Cendan & Lok, 2012; Padilha et al., 2018). Historically, medical training has utilized role-playing of different clinical situations in a similar manner as counselor training (Basheti, 2014; Cendan & Lok, 2012; Rosenbaum & Kreiter, 2002). Recently, physician and nursing training programs have begun to incorporate VR for simulated clinical case examples (Lemheney et al., 2016; Padilha et al., 2018; Smith & Klumper, 2018). In the medical fields, these products use “virtual patients” (Cendan & Lok, 2012, p. 48), which are computer programs that guide medical students through virtual clinical cases to help them identify symptoms and propose interventions in fictitious clinical scenarios (Kean, 2017). Padilha et al. (2018) conducted a study with nursing students and found that after using a touchscreen VR client scenario, the students expressed high levels of perceived utility and desire to use VR applications as a training tool. In some cases, counselor training has used actors to portray clients (Anderson, Gundersen, Banken, Halvorson, & Schmutte, 1989; Osborn et al., 2004), and students have provided positive feedback regarding these experiences (Anderson et al., 1999; Osborn et al., 2004); however, getting access to individuals to portray real clients may be cost or time prohibitive. The use of VR may hold some promise in creating conditions in which counseling students can experience more authentic counseling situations in controlled contexts.

Research on VR in the counseling field has focused on its use in the treatment of various trauma- and anxiety-based disorders (Parsons & Rizzo, 2008; Rizzo et al., 2008; Sarver et al., 2014; Stupar-Rutenfrans et al., 2017). However, the novelty of VR can still be seen in the lack of research in counselor training. Simulated education experiences using VR have the potential to create virtual experiences that replicate more authentic ones in a controlled context. VR may provide experiences that allow counseling students to be exposed to various levels of counseling situations

that may help skill development, cognitive complexity development, and reduction in anxiety.

The experiences of counseling students utilizing immersive VR as a pedagogical tool have not been examined. We wanted to understand how students may perceive this technology as a potential pedagogical tool during counselor training. To better understand counseling students’ immersed, lived experiences (Creswell, 2007) using VR, we conducted a phenomenological study in which counseling students were interviewed after they were exposed to simulated counseling scenarios using a VR headset. A phenomenological design is appropriate to identify themes based upon counseling students’ experiences with simulated virtual education (Creswell, 2007).

Method

Institutional review board approval was obtained from our university before beginning this project. In a phenomenological study, the researcher attempts to understand the lived experiences of a phenomenon at a deeper level (Creswell, 2007). Due to the lack of research regarding the use of VR as a teaching tool, we decided it would be advantageous to first gain an overall understanding of this unique experience from the students’ perspective. Therefore, a phenomenological approach was chosen as the methodology to gain an in-depth understanding of counseling students’ experiences (Moustakas, 1994). This phenomenological study captured eight counseling students’ experiences watching four different virtual case studies performed by volunteer actors. Before interviewing the participants, the researchers had to create the simulated counseling scenarios because this type of stimuli does not exist. Volunteer actors who had an interest in acting in a counseling session were recruited from the local community. A special video camera that can capture 360-degree video to create virtual scenarios was used to record the simulated sessions. The camera was set up such that the final VR video would allow the participant to view the recording from a first-person perspective as if they were

sitting in the room with the person being recorded. The volunteer actors were asked to role-play situations the researchers felt may be uncomfortable for beginning counseling students. The scenarios included suicidal ideation and descriptions of suicide attempts, sexual trauma, death/loss, and depression. The volunteer actors were asked to provide a two- to four-minute monologue in which they answered the question “What brings you into counseling today?” from the perspective of the presenting concern we provided (i.e., suicide ideation, sexual trauma). The actors were asked to look at the video camera and respond as if the camera were a human therapist. The researchers provided the actors two follow-up prompts to capture cognitive- and emotional-based responses from the actors. In all, each volunteer actor provided approximately three to four video segments. The volunteer actors were given pseudonyms and compensated with gift cards donated by a local restaurant. All volunteer actors were offered an opportunity to process and debrief the researchers on their experiences after engaging in the various roles. None of the volunteer actors felt the need to engage in the debrief other than to provide positive commentary regarding the experience and the technology.

Participants

The participants were students enrolled in the master of clinical mental health and school counseling programs at the university where the researchers work. The participants, who were not compensated in any way for their participation, were recruited from counseling helping skills classes with the permission of the course instructors. The authors of this study were not the instructors for the courses from which we recruited. Participation was voluntary, and the students’ choice whether to participate had no bearing on their final grades or standings in the counseling program. The participants could withdraw from the study at any time. In all, eight students participated in the study. Five were currently enrolled in their first helping skills course and were near the beginning of their matriculation. Three were enrolled in an advanced counseling

skills and techniques course and were in their final semesters of study. The participants consisted of seven females and one male ranging in age from 24 to 32. Five of the participants identified as African American, two identified as Caucasian, and one identified as Middle Eastern.

Before the participants put on the VR headset and watched any videos, we provided a demonstration on how to wear the VR headset and informed participants of the potential emotional and physical risks of this study. We described potential physical discomfort that may be experienced from wearing a VR headset, such as eye strain or dizziness. Due to some of the potential emotionality of the videos, we described the topics of the videos so the participants would be informed of the nature of the content prior to watching should they wish to opt out. All the participants consented in writing to wearing the headset and watching the videos.

The VR headset allowed the students to watch the recorded case studies from a first-person perspective. We deliberately created the recordings so the participants would virtually appear to be sitting in a chair in a counseling room a few feet away from the fictitious client. To further enhance the experience, the users sat in the same chair they could see themselves sitting in during the videos. All the participants were initially shown an orientation VR video to acclimate them to viewing the screen from a first-person perspective since many of the participants had never experienced this technology. This minimized the tendency for the participants to spend time during the simulated sessions “looking around” the room. The participants were then informed that they would be viewing different clients with various presenting issues discussing what had brought them into counseling. One of the researchers was always in the room observing the participants while they were experiencing the virtual scenario to observe non-verbal reactions to the virtual cases, to be available to address technical issues, and to assist students if they wished to end the experience early. None of the participants ended the

study early.

All the participants watched all the video segments in the same order without breaks. They watched each actor's monologue of their presenting concern followed by the two different responses before moving to the next counseling scenario to create an experience involving unique counseling situations with four different "clients." The total time spent viewing all the video segments was approximately 35 minutes. After watching the video, the second author asked the participants to respond to a series of open-ended prompts to capture their experience with simulated virtual cases and to share their ideas of how they would like to see this technology utilized in their training. The participants were interviewed once immediately following the VR viewing experience; the interviews lasted approximately 30 minutes.

The prompts included the following:

- Describe your reaction to interacting with a clinical scenario using virtual reality.
- What surprised you about this experience?
- Discuss how this experience can help students develop comfort working with clients or help improve their clinical skills.
- Discuss what you think are the strengths of this experience.
- Describe the potential limitations of this experience.

Data Analysis

All interviews were audio recorded and transcribed prior to analysis. The audio recordings were kept on a computer in the authors' research lab. The computer lab was always locked, and access was restricted to students and other faculty members. The authors each read two interviews separately to develop an initial list of codes. After initial code development, the authors met to discuss the emerging codes. Through discussion and consensus, an initial list of

codes was developed based on the initial pass. After the codes were developed, the authors separately read each transcription and coded the transcriptions. The researchers met regularly during data analysis to discuss emerging codes and the need to remove or collapse codes. After the data were coded, the authors met to review each of the findings to reach a consensus on the coded data. The authors then compiled a list of all codes used and ordered based on the frequency of use in the data. From the ordered codes, the authors developed themes that captured the reported experiences of the participants.

Trustworthiness

The authors of the study made intentional efforts to maximize the trustworthiness of this study by using the following recommended strategies: bracketing of researcher biases, reflexive journaling/field notes, persistent observation, and triangulation (Creswell, 2007; Hays & Singh, 2012).

Bracketing of Researcher Biases

To allow individual experiences to emerge and to set aside prior research experiences, the authors made efforts to bracket their a priori experiences with VR (Creswell, 2007). Neither author had much experience with VR prior to developing the case study videos used as the stimuli for this study. The first author is a faculty member in a university counseling department. He has experience teaching various courses in a CACREP-accredited counseling program in which students are assigned activities including role-plays, video demonstrations of counseling, and interactions with written case studies. He has published articles and given presentations on ethical issues related to technology implementation in counseling. The second author is a doctoral student in counselor education and supervision who has presented on ethical issues related to using technology as a counseling tool. The authors have given a conceptual presentation on the potential utility of VR at a professional conference. By creating the videos and interacting with the VR system prior to the study, the authors developed a priori ideas regard-

ing what the students may experience. The authors discussed and bracketed their expectations of how students may respond to the study before creating the interview prompts and engaging in data analysis to minimize biases in findings.

Field Notes, Reflexive Discussions, and Persistent Observation

The authors were interested in maximizing the dependability, confirmability, and authenticity of the students' experiences in this study (Hays & Singh, 2012). One of the researchers was always in the room while the participants wore the VR headset and watched the virtual case studies. The researcher could see what the participants were watching on a separate screen while witnessing their nonverbal behaviors.

Through this persistent observation, the authors maintained field notes describing their observations while the participants utilized the VR headset. After the participants watched the VR case study and removed the headset, the authors interviewed the participants using the open-ended prompts. During the interviews, the authors conducted informal member checks by reflecting the participants' observed non-verbal behaviors. This allowed the authors to reach a consensus with the participants and add to their understanding of the phenomenon. The authors met regularly throughout the data collection process to discuss emerging themes and to process their reflexive experiences to ensure the participants' experiences emerged.

Triangulation

Utilizing and triangulating multiple sources of information is a common method for establishing trustworthiness (Creswell, 2007; Hays & Singh, 2012). The authors incorporated multiple data sources by utilizing the participants' responses to the open-ended interviews and observations from being in the room with each participant as they viewed the virtual case studies. In addition, the authors alternated on providing observations during the data collection process to help triangulate their observations (Hays & Singh, 2012). The authors then discussed the field notes and

journaling as described above to help reach a consensus on the observed phenomenon. Finally, the authors triangulated the emerging themes during data analysis by separately reading two transcripts of the interviews and developing an initial list of emergent themes. The authors then met and reviewed the initial themes and refined them based on consensus. After initial themes were developed, the authors read through each interview transcript together to reach consensus on the emergent themes. The researchers compared the themes with their observations from being in the room and their own notes. Finally, the authors attempted to provide thick descriptions, which are provided in the findings below.

Findings

In all, five themes and two subthemes emerged from the participants' interviews. The themes were consistent for all participants regardless of their points of matriculation in the program, although the three participants in their final semesters emphasized a desire to undergo this type of intervention before beginning a practicum experience.

Authentic and Immersive Experience

The most common theme described by the participants was that the simulated exposure felt like an authentic, immersive experience. The students consistently expressed feeling that they were in the room with the client and that they could empathize with the client's emotions as they viewed the VR videos. The immersive nature of the experience led students to articulate the metacognition they experienced while watching the immersive videos. The participants articulated awareness of the thoughts they noticed while they were watching the simulated scenarios. These thoughts were focused on the following subthemes: 1) awareness of non-verbal cues and 2) awareness of potential responses. We also observed the participants engaging nonverbally by nodding and tilting their heads during the videos while they were wearing the headset, which we felt was indicative of being immersed in the experience.

The students seemed surprised by how immersive the experience felt and how they felt drawn into the virtual experience. The students noted that they felt as though it was “real” or that they were in the same room as the virtual client. One participant reported that her biggest surprise in the experience was how immersed she felt:

Honestly...you have a realistic experience. And I also found myself nodding to let him know that I was still engaged and I’m not even here [*sic*]. Like [they’re] not sitting in front of me. But that’s one of the major things about it, virtual reality. Like I’m actually being placed in this situation and it feels like I’m here.

Another student stated:

I would say I thought it was actually the same as being in a room because at first, I was going to say well you know you don’t feel their emotions, but you do.... I would say it’s pretty much the same as being in the room which I didn’t anticipate.

Awareness of non-verbal cues. Building on the immersive experience, the participants articulated that they were aware of both their own and the virtual client’s non-verbal behaviors. Some participants noted that because the VR experience places the viewer in a first-person perspective where the individual can look at the client as if they were sitting facing them, they noticed themselves paying attention to and commenting on the client’s non-verbal cues in the simulated scenario. In addition, some of the participants were mindful of their own non-verbal reactions that may have emerged as they were listening to the different scenarios and considering the perceptions a client may have to their nonverbal reactions to the presented narratives. When discussing the virtual client’s non-verbal behaviors, one participant stated:

I felt like I was there, but the interactions seemed more intense on my end because I felt like I could really zoom in and see [the cli-

ent’s] reactions, see the fidgeting, or how they were breathing. I felt like I could pay more attention to that through [virtual reality] than if they were actually sitting in front of me.

Many of the participants stated that they noticed themselves being more conscious of their body language in relation to the client’s body language while engaged in the virtual experience. We observed that the participants engaged more non-verbally with the VR scenarios that involved suicide or sexual trauma themes. One of the participants described the awareness of her non-verbal cues:

But, for the most part, I felt like it was a good experience to feel like...How are you going to react? I started thinking...Am I sitting the right way? Am I giving them the right impression that I’m listening, that I’m attentive, and that I care what they are saying? Um, are they looking at my facial expression and wondering why I am looking like that?

Awareness of potential responses. This virtual experience was asynchronous by design so participants were not given the opportunity to respond in real time to the virtual client’s narrative. However, once the viewing experience had ended, many of the participants articulated that they were considering different potential responses they could have given after watching the virtual clients. They seemed to feel present in the situation, and the felt authenticity of the situation may have elicited a focus on how to respond to the clients’ narratives. One participant expressed an increased awareness of her thoughts and how she should respond:

It makes you think about your presence in the room.... I felt comfortable running through questions in my head, what should I ask, what should I do next, and what would work for them? And when they responded with something in a way that coincided with something I thought—it was like, oh okay I am on the right path, like this is the right thing.... You can sit

in the classroom and learn about these scenarios and watch videos, but it is a completely different feeling when you are actually in the moment.

Preference to Role-plays

The experiential nature of the VR case studies allowed participants to compare the authenticity of the experience to that of traditional role-plays in a counseling program. The participants indicated that because of the felt authenticity of the situation, they preferred this experience to classroom-based role-plays. The experience with the VR case studies seemed to encourage the participants to consider the seriousness of a counseling exchange, which can create a different mindset when conceptualizing the observed encounter. A participant near the end of her program indicated this by saying, “I felt like it wasn’t a joke. You know like sometimes it feels like we [joke] role-play when it comes to stories.” Similarly, a participant stated:

I mean I would probably take [virtual reality] a little more seriously, because in traditional role play sometimes you know the people and sometimes it’s a little awkward and you’ll kind of laugh or check your phone, too. Because the other person is usually just trying to make things up as they go.

Another participant who is in her final semester stated:

I felt like this was...more authentic than actually finding a partner in your class and then them sitting down and just trying to come up with a scenario just so that you can respond.... You’re able to just sit back and be in this environment and you know I guess just feel like what it will be like to actually be in that setting.... But I never felt [they were fake]—I mean I knew in my mind because of course, I knew that this was fake, but then there are like these scenarios. I can see myself—as I work with clients like that.

Exposure to Advanced Scenarios

Two of the virtual counseling scenarios we created were designed to expose the participants to scenarios focusing on crisis and trauma situations. One video was of a young female discussing a sexual assault experience, and the other video was of a young adult male describing suicidal ideation and a suicide attempt. Both actors were descriptive in their presentations of the narratives. The participants recognized that exposure to these types of situations was more salient and necessary to prepare for working in the field. The participants indicated an awareness that counseling requires individuals to deal with emotional salient material and that VR may create opportunities for students to work on getting comfortable listening to traumatic narratives so they can not only process how to proceed clinically but also consider the impact of the narratives on the student. One participant acknowledged the difference between merely learning about assessing suicide as an intellectual activity and experiencing an individual describe their lived experience of making an attempt: “Especially, in context, because you can talk in a class like, ‘What things would you look for to assess for suicide?’ But when somebody is describing a real-life scenario it’s pretty different.” Another participant in the basic counseling skills course articulated the usefulness of this exposure for students early in their counseling programs:

I think a huge thing is just getting comfortable with people saying things...like...the last one talking suicide, like suicide attempts or rape and death...those kinds of things and being comfortable seeing...somebody saying that or hearing that spoken to you in a way. I think [it] is really helpful because...the scariest part is like, what do you do with that? I think that would be very useful and then...being able to visualize yourself in that situation in a way that’s very different than I think you know the experiences would be.

Anxiety Reduction

Participants described a sense of increased confidence and reduced anxiety about their counseling skills because of the ability to practice their skills using a different method. The experiential nature of the VR videos seemed to create a type of exposure to clinical situations that may reduce students' anxiety around their perceived ability to render clinical services. One participant noted:

That excited me and it makes me more excited about class and continuing to build and gain all of that great wealth and knowledge and then I would say really helping me reduce my anxiety about it.... You're not even thinking about anyone else but the client, which is what you should be doing as a counselor anyway.

Many of the participants acknowledged that earlier exposure to these scenarios could help students decrease anxiety as a type of desensitization to the process of dealing with emotionally salient narratives or ambiguous situations. One participant in her final semester stated:

I feel like if I would have had this in my early classes...this would have actually been so beneficial because it's like you have that feeling of you actually being in the room and it's kind of...breaking you in...before you actually are in the room with the person.

Another participant in the final semester of his internship articulated:

The first time at my internship was the first time I had to sit in a room alone with somebody who was actually talking about stuff that was pretty intimidating. So, [this experience] may [help] being prepared for that, since you can look around and it feels pretty real and emotionally engaged.

Desire to Engage

As indicated above, the design of this virtual intervention was asynchronous, which prevented

participants from creating responses to the clients. All the participants articulated a clear desire to engage with and respond to the client. They indicated that the lack of any opportunity to create a response to the virtual experience was a limitation. As one participant stated, "Obviously, the biggest [weakness] I can see is you can't really react back you know?" One participant provided another example: "I wanted to say some things.... I felt like, if we were in class, I would be able to jump up and say some things." However, another participant indicated that the asynchrony of the experience could be used to facilitate a classroom or individual intervention to discuss potential responses:

The only limitation I felt was I really wanted to actually engage so now I'm able to engage, but I guess maybe that is still isn't a bad thing if... somehow it was made into a class setting of expressing that and having the students express that.

Discussion

This qualitative study investigated the use of VR as an innovative training tool for counseling students. The use of VR as a teaching instrument is already being used in other fields, and it has been found to be beneficial (Padilha et al., 2018). The findings of this study indicate that the students believed exposure to a virtual experience was quite authentic and immersive. Most of the participants acknowledged a preference for this experience compared to role-plays and for having this type of exposure before entering their practicum and internship experiences; however, the participants also acknowledged that they wanted to engage with the clients in the videos, which they could not do because of the asynchrony of the VR technology.

Although synchronous interaction is lacking, the immersive experience may be beneficial to student development in other ways. The participants acknowledged that this early virtual exposure may decrease anxiety and create greater confidence before entering their practicum and internship experiences,

although more research is needed to understand if this is the case. The ability to expose students to more advanced, emotionally salient counseling contexts could create significant instructional opportunities for counselor educators. Other clinical fields have used simulated virtual cases in similar ways; however, there is no literature regarding the use of VR to enhance counselor skills. One way this form of VR could be utilized involves treating it as a case study in which a student watches a case rather than reads about it. As one participant noted, the asynchrony of this experience could be used to allow students to experience a counseling situation virtually from the perspective of a counselor and then use the experience to develop various types of training interventions, including developing a response, supplementing the experience with a follow-up role-play to practice skills, practicing crisis intervention, or applying different theories as a conceptualization activity.

Using VR can provide a means to expose students to more advanced clinical counseling presentations in a controlled environment. Previous research indicates that more exposure to complex counseling situations could lead to gains in cognitive development (Choate & Granello, 2006; Skovholt & Ronnestad, 1992). More research is needed to explore the impact on student cognitive development resulting from exposure to various simulated virtual counseling experiences.

Limitations

Although these findings indicate promise in the use of VR in counselor training and many of the participants found the experience favorable and desirable, more research is needed to explore whether exposure to virtual counseling experiences provides any demonstrable effect on counselors' cognitive or skill development. The use of VR can be expensive and time intensive, and students must commit to using a dedicated computer with a headset. Some of the participants experienced slight physical discomfort and physical strain as they wore the headset. Some of

the identified symptoms include eye strain, dry eyes, neck discomfort, and stress on scalp/hair. None of the participants were injured as a result of this study, and the expressed discomfort was no more than slight. However, proper consent should be followed before students use VR.

Other less-expensive mobile VR applications on the market may make different types of interventions available. For example, the use of products such as Google Cardboard with a smartphone can provide a similar experience that does not require a headset tethered to a device. Research to explore other applications of virtual simulated experiences in individual and group contexts is needed.

A phenomenological design was used for this study because the researchers wanted to allow the participants' experiences with the VR viewing phenomenon to emerge. This design is appropriate because no data exists on the application of VR in this context, and the authors were interested in bracketing assumptions to let themes emerge. The study is meant to provide an initial understanding of the potential use of VR in counselor education to guide future research and discussions. However, the sample utilized in this study was small and limited in its variability of age, which impacts the generalizability of the findings. Studies exploring the impact of innovative technologies such as VR on more diverse samples across different demographic variables are needed to understand the perceptions of use in more varied groups.

Future Research

The current study demonstrated that there may be a place for VR in counselor training programs, although more research is needed to understand the utility and impact of such technology as a pedagogical tool. The authors are aware of no previous studies that assessed the use of immersive VR to assist counseling students with the development of counseling or cognitive skills.

One benefit of using VR in future research on counselor training involves exploring the potential for VR case studies to be used as a common stimulus for assessing counseling students, which may improve the reliability of student evaluations. CACREP (2016) standards have an increased focus on student outcome assessment, including knowledge and skills. One potential use of a common virtual simulated experience involves creating a common clinical experience that all students in a program could encounter; various types of assessment could be developed based on this experience. As compared to role-plays, where students' responses and interactions may be influenced by the individual playing the "client," the virtual simulated experience could provide a common clinical stimulus to which all students could respond. In addition, assessing students' dispositions is an important factor in counseling students' development. One potential area of benefit of using more emotionally salient virtual counseling experiences, such as sexual trauma or suicidality, in a controlled environment is that they may create opportunities for faculty and supervisors to enhance their roles as gatekeepers by responding to student reactions that may be harmful in an actual clinical context before engaging in supervised clinical experiences.

This study has provided preliminary evidence that VR may create a safe, authentic environment that can help decrease students' anxiety and expose students to advanced counseling scenarios. Based on the findings of this study and the literature on how VR has been successfully used in other fields, we recommend that more research studies be developed to explore the contributions VR can make to help students meet the unique demands of their counseling roles while increasing their cognitive development skills. Future quantitative research exploring measurable outcomes with large, diverse samples are needed to investigate how VR can be easily integrated into the classroom setting and its subsequent impact on student learning.

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