10. Cultivating Counter Space: Evoking Empathy Through Simulated Gameplay

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Abstract: This report presents initial findings from use of a computer simulation that was designed as narrative for cultivating counter space for students, a space to practice communicative and analytic behaviors that support humanitarian values, social equity, respect for diversity, and socially just action. The computer simulation encourages and rewards ethnocultural empathy and prosocial behavior among students who are learning professional helping skills. Ethnocultural empathy involves understanding and empathizing with the experiences of those who are from racial and ethnic cultural groups different from one's own. Prosocial behaviors are voluntary behaviors that intend to benefit, to assist, and to comfort others. The simulation induces students to confront and question legacies of institutional racism, classism, and sexism in their personal judgment and nascent professional helping behaviors. The basic necessities of decent human survival are implicated with the messiness of human relationships as fundamental components of practicing socially just helping behaviors. In the simulation, the student completes an assessment and plan of action that must identify ethical principles involved when dealing with the lives and situations of others, while recognizing and awarding value to a character's culture, gender, age, developmental stage, and life situation. Findings indicate that the simulation evokes a significant increase in empathetic response from a diverse group of students. The ability to increase or renew ethnocultural empathy is a hopeful sign in a world where active violence toward difference and diversity has found a place in public gatherings as well as our schools and local communities.

Introduction

Empathy, the ability to understand, appreciate, act on, and share another's emotions, has been investigated by Zaki (2020) as a primary, renewable behavioral resource. Empathy is a fundamental component of effective social interaction that can be evoked in a manner that has the potential to increase the practice of humanitarian values. Empathy is reflexive, and individuals have the capacity to alter, diminish, or increase empathy in their reflexive response to context and situation. This capacity has been described by Zaki and others (Decety & Jackson, 2004) as *interpersonal emotional regulation.* Such regulation can be a conscious activity for professionals in their encounters with others. Most helping professionals encounter situations in which they must help another person during emotional moments. In those cases, interpersonally regulated empathy can support helping goals and be relationally authentic (Koole & Tschacher, 2016). In this case, our experimentation is investigating the question of how and to what degree a technology simulation can evoke a type of empathy known as *ethnocultural empathy* in a manner that supports learning, and, at the same time, leads to an overall increase in ethnocultural empathetic capacity and prosocial behavior.

Ethnocultural empathy is a form of empathy directed toward people from racial and ethnic cultural groups who are different from one's own ethnocultural group (Wang et al., 2003). Provocation of this form of empathy has been viewed as one possible path to promote mutual affective and cognitive understanding between various racial and ethnic groups (Rasoal, Ekland, & Hansen, 2011). Empathy has also been shown to increase understanding and motivate prosocial behaviors (Herrera, Bailenson, Weisz, Ogle, & Zaki, 2018). Empathy is reflexive, and individuals have the capacity to alter, diminish, or increase empathetic concerns in their reflexive response to context and situation. As Zaki (2020) points out, it has been demonstrated that it is empathetic concerns, not experience sharing, that supports well-being and close relationships (Crocker & Canevello, 2012; Morelli, Lee, Arnn, & Zaki, 2015; Morelli, Ong, Makati, Jackson, & Zaki, 2017).

Further, empathetic concerns can protect educators and helping professionals from burnout and other associated problems (Gleichgerrcht & Decety, 2013; Lamothe, Boujut, Zenasni, & Sultan, 2014). The capacity for empathetic concerns prompt choices that require us to understand and forecast others' emotions as fundamental components of their prosocial goals and actions. In other words, the evocation of an empathetic concern acts as a prompt to examine one's emotional state, to form goals that imply changing or maintaining emotions, and to enact tactics that are believed to be effective in the accomplishment of those goals. In social work practice, this is described as the purposive use of self. The conduct of these activities in response to empathic concern has been studied as connected to extended models of interpersonal emotional regulation (Gross, 2015). Additionally, a number of learning models suggest that empathy must be invoked to engage the learner (Shin, 2018). In this research brief, we present preliminary results from our first attempts to use a simulation to motivate multicultural empathic concerns and allow for meaningful rehearsal and enactment of prosocial behavior. The enactment of those concerns has been shown to be related to health and to increased prosocial behavior (Batson, 2009; Jordan, Amir, & Bloom, 2016; Zaki, 2020). In fact, persuasive arguments from Hoffman's work (2000, 2008) have encouraged us to consider empathy as one of the key antecedents and corollaries to prosocial behavior and a social justice orientation.

Similar to empathy, prosocial behavior has been examined as an expressive emotion that can be reflexive (Levine, Barasch, Rand, Berman, & Small, 2018). Prosocial behavior is generally described as behavior that is intended to help another person (Keltner, Kogan, Piff, & Saturn, 2014). In this study, participants are asked to help another person by conducting a simulated home visit and applying principles they have encountered in an academic setting to a simulated context and situation. The simulation also places extra burdens on the student's ability to engage in forecasting based on those principles. Forecasting seems critical to the regulation of empathic concerns and, by extension, to the use of ethnocultural empathy and prosociality. The simulation demands reflective and forecasting activities by engaging the student in an assessment of a family's situation and the completion of a plan of action for the family, while assembling the evidence for his or her personal inferences and judgments throughout the simulation.

At a most general conceptual level, we consider serious educational play to be premised on the view that in any practice profession an epistemic frame for learning is fundamental. Following Shaffer, Squire, Halverson, and Gee (2005), we theorize that helping behaviors can be understood within an epistemic frame composed of knowledge, skills, values, and identity linked by a particular educational epistemology, which we define as a technology of making decisions and justifying actions. Shaffer was an early forecaster of the potential impact of the educational use of experiences in video games, computer simulations, and other interactive learning environments to help deal more effectively with situations outside the original context of personal learning. In general, epistemic frames have been described as a way of affiliating a body of knowledge with practice. One premise of our work with serious educational games is the view that in the teaching and helping professions, practice-based learning can be primary, whether it be through life's personal encounters, internships, or play, such as that experienced in a simulation.

Brianna's World

Brianna's World (Krysik, 2018) was intentionally developed to expose player values and biases in a context where students could apply their academic knowledge, personal experience, and nascent practice skills to help a family and teenager. The player assumes the identity of a school social worker whose supervisor gives him or her a school referral that describes a series of concerns about a teenager in high school. The player must visit the home of the teen, complete a situational assessment, and propose a plan of action. In the simulation, reflections about identity are provoked by the game and interactivity is required in each encounter with simulated characters and their situation. The encounters demand appraisal of self and other such that interpersonal emotional regulation (IER) can be evoked in each interaction and decision. In Brianna's World, participants use IER when they must choose their helping strategies based on inferences. For example, players interact with characters in the simulation by selecting a response from a

set of texts. Each selection is judged dynamically for empathy, authenticity, and cultural awareness with ribbons of different colors that appear and add or subtract color to their respective meter. The simulation also pauses periodically, and at those points, the players interact by selecting evidence that has concerned them, such as a hidden cell phone, and registering their inferences about that observation in preparing an assessment. The players must identify and arrange their sources of data and their inferences, building what will become the argument for their ultimate plan of action. When the simulation is completed, the players will have built an assessment and plan of action by selecting and arranging data and evidence to support their primary and secondary inferences. The completed assessment and plan of action are available after ending the simulation as a document that can be studied, shared, and discussed with others.

The simulation was designed as an opportunity to provide the learner with dynamic feedback while focusing on the production of prosocial behavior and the use of the self-regulating and forecasting aspects of empathy (Grecucci, Theuninck, Frederickson, & Job, 2015; Williams, 2007). The extent to which a social worker might depend on empathy in practice has been the subject of many articles (Segal & Wagaman, 2017; Stanley, Mettilda, & Meenakshi, 2018), including a social work model of empathy (Gerdes & Segal 2009, 2011). In the simulation we have developed, participants use IER when they must choose their helping strategies based on inferences. But the fact that empathy is valuable does not imply that it is always positive. When empathy is generated by exposure to suffering, it can foster burnout and "compassion fatigue" (Gleichgerrcht & Decety, 2013; Wagaman, Geiger, Shockley, & Segal, 2015).

As we have indicated, empathy regulation has special importance to those in professions such as social work, education, and health. Thieleman and Cacciatore (2019) demonstrated that generating simulated exposure to the major life events of others can assist students with learning the empathetic regulation they require in order to be helpful. An excess of empathy has also been shown to variably influence decision making (Hojat, 2016). There are a number of other issues when empathy is regulated and the goal to improve another's well-being presents difficulties for the person(s) for whom the goal is formulated. It is difficult to underestimate the influence and effects of empathic IER. For example, social workers, educators, and health professionals must respect the dignity of others and act in terms of their well-being, even though this may generate a negative experience, and, for the professional, could induce guilt, moral conflict, and weakened goals. It is also the case that even in the conduct of prosocial behaviors, the professional may experience value conflicts. For example, in the simulation, the player is presented with situations in which his or her response can worsen the emotional state of another but contribute to the achievement of a long-term goal.

Avoiding these issues might require the use of empathy in an instrumental manner that one hopes will benefit those being helped. In this regard, empathic IER requires two fundamental processes: affective forecasting and self-control. These processes are supported in the simulation in part through the production of empathic concern for the mother and teen. The design supports player self-regulation in assessment activities, such as with tasks that establish long-term goals for the family. Forecasting occurs when players must identify how possible future events will influence the emotional experience of themselves and other characters in an epistemic frame. Empathic concern can produce sophisticated prosocial goals that are informed by the student's educational preparation and necessitate significant cognitive effort as well as emotional regulation.

Components of the Scale of Ethnocultural Empathy

In our investigation, the Scale of Ethnocultural Empathy (Wang et al., 2003) was used to measure player ethnocultural empathy. The global scale contains four subscales, empathetic feeling and expression (EFE), empathetic perspective taking (EPT), acceptance of cultural differences (ACD), and empathetic awareness (EA). EFE measures responses to the experiences of people from racial or ethnic groups different from the respondent's, as well as responses to discriminatory or prejudiced attitudes. EPT measures respondent efforts to understand the emotions and experiences of people from other races or ethnic groups. ACD has items that capture respondent understanding, acceptance, and

valuation of cultural customs and traditions. The final subscale, EA, measures the degree to which the respondent is aware of or knows about experiences of racial or ethnic groups different from their own. Each of the 18 items on the scale are scored on a 6-point scale ranging from *complete agreement* with an item to *complete disagreement*. Total scores range from a lower level of ethnocultural empathy (0 to 79) to the highest levels (90+). The measure was completed by students playing the simulation both before and shortly after completion.

Components of the Prosocial Tendencies Measure

Prosocial behavior was measured using a 20-item form of the Prosocial Tendencies Measure (Carlo, Hausmann, Christiansen, & Randall, 2003). The Prosocial Tendencies Measure assesses six different types of prosocial behaviors. *Altruistic* prosocial behaviors are those motivated by concern about the welfare and needs of another. *Compliant* prosocial behaviors are those that are enacted in response to a request for help. *Emotional* prosocial behaviors are those that are a response to emotional, distressing situations. *Public* prosocial behaviors are those calculated to gain the respect or attention of others. *Dire* prosocial behaviors are those that happen in a crisis or in an emergency situation. *Anonymous* prosocial behaviors are those in which the behavior is directed to an unknown person or cause, such as in donating to a nonprofit. Players were asked to rate the extent to which the item described them on a 5-point scale ranging from *does not describe me at all* to *describes me greatly*. The measure was completed after playing the simulation.

Method

The research was approved by the Institutional Review Board of the associated university. Brianna's World was used in a set of 10 classes that dealt with the integration of field instruction and classroom learning at the senior undergraduate level. The 127 students were briefed about the contents of the simulation and were given an option not to participate in the research. Although none of the students took the non-participation option initially, 12 of the students did not respond. Of the remaining 115 students, another 10 did not complete all of the measures. The students were uniformly able to complete the game and measures during their normal class period. One of the researchers attended each of the participating classes and introduced students to the game. The researcher remained in the classroom until the session was completed. The ethnocultural empathy measure (Wang, 2003) was administered pre- and post-gameplay to all students.

Results

Student responses were significantly higher on ethnocultural empathy on their posttest compared to their pretest. The results of the global score, $t\ (104) = 17.08$, $p = .00001$, indicated much more empathetic sensitivity from pre- to posttesting. In addition, the effect size (Cohen's $d = 1.54$) was large, indicating the magnitude of the difference. Table 1 indicates that across all races in this preliminary round of exposure to Brianna's World, there was a strong, positive effect on the experience of ethnocultural empathy. The largest score change from pre- to posttest was among Black participants. It is notable that American Indian and mixed-race students were the only two groups whose scores, though higher in the posttest, were not in the high ethnocultural empathy score range (90+).

Race	Count	Average pre-test Ethnocultural global score	Average post-test Ethnocultural global score
Hispanic	35	77.3	93.2
American Indian	6	74.2	83.7
Black	10	74.8	93.7
White	34	75.1	90.8
Mixed	11	76.4	84.2
Not identified	9	75.3	93.2
Total	**105**	**75.8**	**90.9**

Table 1. Global ethnocultural pre- and posttest scores by race.

As shown in Table 2, racial and ethnic minority (REM) women had higher average item scores on one of four subscales, ethnocultural perspective taking (EPT), and on the overall average item score at pretest compared to the other groups. REM men were highest on empathic feeling and expression (EFE) at pretest, whereas White men were highest on acceptance of cultural differences (ACD), and White women were highest on empathetic awareness (EA). That position changed at posttest with White men scoring highest on empathetic feeling and expression. Although the scores of racial minority women remained relatively the same from pretest to posttest, other groupings of students reported an elevated sense of overall ethnocultural sensitivity. In particular, White males had a significantly higher level of ethnocultural empathy in the posttest. Every other group result indicated small rises in ethnocultural empathy levels from pre- to posttest. Other studies have reported large differences in racial groups as well as fairly large gender differences in ethnocultural empathy (Cundiff & Komarraju, 2008; Wang et al., 2003). That was not the case in this sample, likely because these were students pursuing a professional social work degree who may have been more predisposed to empathy given their career choice, as well as having experienced considerable exposure to it during the course of their social work studies. Notably, White women were less likely to report sensitivity to ethnocultural perspective taking than others in both the pretest and posttest. On the other hand, they were highest in empathetic awareness on the pretest. Our preliminary findings lead us to hypothesize that the intersectionality of racism and sexism may contribute to a continuous, conscious awareness of ethnocultural empathy among racial ethnic minority women (Lu, Hancock, Hill, & Keum, 2019). In this sample, racial ethnic minority women registered a continuous level of ethnocultural empathy whereas other groups, especially White men, reported an immediate, heightened sense of overall ethnocultural empathy in the posttest.

	Pretest				
Variable	**EFE**	**EPT**	**ACD**	**EA**	**Overall**
REM Women	4.96(1.15)	4.81(.83)	5.39(.68)	5.29(.87)	5.09(.47)
REM Men	5.26(.53)	4.66(1.02)	5.05(.59)	4.86(1.30)	4.99(.71)
White Women	5.04(.70)	3.82(.92)	5.59(.43)	5.41(.64)	4.98(.42)
White Men	5.17(.66)	4.25(1.07)	5.41(.93)	5.28(.56)	5.04(.47)
All	5.03(.71)	4.47(.99)	5.41(.64)	5.28(.85)	5.05(.48)
	Posttest				
Variable	**EFE**	**EPT**	**ACD**	**EA**	**Overall**
REM Women	5.08(1.19)	4.72(.94)	5.33(.90)	5.17(1.09)	5.08(.65)
REM Men	5.18(.67)	4.75(.75)	5.11(.68)	5.52(.62)	5.15(.54)
White Women	5.17(.64)	4.05(1.08)	5.66(.42)	5.49(.50)	5.10(.46)
White Men	5.38(.52)	4.44(.78)	5.59(.60)	5.47(.47)	5.32(.47)
All	5.13(.71)	4.52(.99)	5.42(.76)	5.34(.87)	5.11(.57)

Note: REM=racial/ethnic minority. Item averages are followed by SD in quotes. EFE=Empathetic Feeling and Expression, EPT=Empathetic Perspective Taking, ACD=Acceptance of Cultural Difference, EA=Empathetic Awareness

Table 2. Ethnocultural empathy average subscale item scores by race and gender.

The Prosocial Tendencies Measure results were similar across all groups. Altruistic prosocial behaviors were reported the most (4.12, *SD* = .78). This was followed by compliant, emotionally motivated, and dire and anonymous forms of prosocial behavior. Public prosocial behavior tendencies were the lowest rated type of behavior. It seems sensible that this would be the case given that students in the helping professions would likely not be looking for public recognition for behavior that they deemed appropriate to their helping profession.

Summary

We are encouraged that the preliminary results based on this single instance of simulated play were able to show significant positive gains in overall ethnocultural empathy. Further, we are encouraged at the magnitude of the gains, especially among White men and women, as well as REM men. The average item scores indicate students were inclined to value all forms of ethnocultural empathy, but the noticeably lower levels of ethnocultural perspective taking across all groups at both pre- and posttest are a sign that efforts to understand the emotions and experiences of people from other races or ethnic groups are a component worth strengthening in the simulation. Unlike in earlier research, there were not major differences in this sample by gender or REM group other than the valuation of empathetic perspective taking by White women. Although our measure of prosocial action was administered only post-simulation, it does indicate that student motivation to help others is strongly connected to a concern about the welfare and needs of others. This finding supports a recognized need to continue to develop the simulation with a focus on interpersonally regulated empathy that helps students critically think about their helping goals and yet retain the relational authenticity they value.

Since the current version of the simulation uses language suitable for social work, this version of the simulation needs to continue to be used across social work–training programs to further establish value and effects. However, small changes in the narrative could be made such that future research could continue with diverse students enrolled in other disciplines, including other helping professions. It does appear, however, from these initial findings, that this simulation

can provide a narrative for cultivating a counter space for youth. We have no evidence yet that it supplies a source of renewal for a human sociality of ethnocultural empathy, but we do so far find that levels of ethnocultural empathy can be heightened, at least temporarily, by participation in the simulation. Further research needs to be directed toward examining the sustainability of simulation effects, such as those we have measured. In this case, we envision future simulation spaces where all people can practice acts of humanitarian value, social equality, respect for diversity, and social justice.

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