

RACISM AND MICROAGGRESSION VIRTUAL SIMULATION

Exploring the Perceived Effectiveness of a Racism and Microaggression Virtual Simulation
Module and Debriefing Framework for Undergraduate Nursing Students

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Abstract

Racism and microaggressions have proved to damage individuals' physical and mental health and continue to exist worldwide today. Within the nursing context, minority nursing students are likely to experience racism and microaggressions and lack the privilege of learning in a healthy environment. There were no current interventions to support students; however, virtual simulation was found to have enhanced learning outcomes. This research explored the perceived effectiveness of a virtual simulation and debriefing to navigate racism and microaggressions for undergraduate nursing students at an Ontario University. The virtual simulation adhered to the International Nursing Association for Clinical Simulation and learning (INACSL) standards.

Kolb's Experiential Learning Theory (ELT) was the conceptual framework guiding the study's structure. Multiple methods research incorporating the Simulation Effectiveness Tool-Modified survey for quantitative data collection and semi-structured interviews on perceptions of the CAN-Sim Cultural Humility and Intersectionality for Psychological Safety debriefing framework for qualitative data collection was completed. Data collection took place over three months (October – December 2021) and after participants completed the survey ($n = 39$) and semi-structured interviews ($n = 2$), statistical and thematic analyses were completed. Findings from the survey indicated the virtual simulation as having a positive impact on learning ranging from prebriefing, scenario, and debriefing content. Findings from the semi-structured interviews included common themes of emotional competence, cognitive change, and comprehensiveness related to the debriefing framework. Future research on evaluation tools focusing on racism and microaggression or other sensitive topics was suggested and suggestions on the future use of the debriefing framework was provided.

Keywords: Racism, microaggression, virtual simulation, debrief, nursing, learning

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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Legend

ANOVA = Analysis of variance

BScN = Bachelor of Science in Nursing

CAN-Sim CHIPS = CAN-Sim Cultural Humility and Intersectionality for Psychological Safety

CASN = Canadian Association of Schools of Nursing

CINAHL = Cumulative Index to Nursing and Allied Health Literature

COVID-19 = Coronavirus Infectious Disease-19

ELT = Experiential Learning Theory

HY = Hayan Yusuf (Principal Investigator)

INACSL = International Nursing Association for Clinical Simulation and Learning

IRN = Internationally recruited nurse

JT = Jane Tyerman (Thesis Advisor)

LMS = Learning management system

MeSH = Medical subject headings

POC = People of colour

REB = Research Ethics Board

SBE = Simulation-based educational

SD = Standard deviation

SET-M = Simulation Effectiveness Tool-Modified

SPIDER = Sample, phenomenon of interest, design, evaluation, and research

TCPS-2 = Tri-Council Policy Statement-2

VSG = Virtual simulation game

VS = Virtual simulation

Chapter One

Introduction

Introduction

Individual and institutional racism towards people of colour (POC) continues to exist across generations and the world today. POC are part of racial minorities that are marginalized and have an increased risk for health disparities, morbidity, and mortality related to racism (Cruz et al., 2019; Paradies et al., 2015). According to a 2019 Canadian survey, 54% of Black individuals and 53% of Indigenous Peoples and the less widely reported Asian ethnicities have personally experienced racial discrimination sometimes if not regularly (Neuman, 2019). The 2019 General Social Survey (GSS) on Canadians' Safety showcases that 46% of Black individuals over the age of 15 have reported discrimination in the past 5 years which nearly doubled since 2014 (Cotter, 2022). In 2020, there were numerous accounts of xenophobic and racist attacks against the Asian community related to ignorance and misinformation during the COVID-19 pandemic (Chavez, 2020). In the same year, the Black and African American community suffered greatly from racial injustices including the wrongful murders of Ahmaud Arbery, Breonna Taylor, and George Floyd. Furthermore, racism has been declared a public health crisis in various United States (U.S.) regions enacted to outline, address, and act upon racial inequities (Chavez, 2020).

While overt racism is the intentional harmful attitudes or behaviours towards minority groups or individuals due to the colour of their skin and is blatant and recognized by most individuals, covert racism also exists (Elias, 2015). Covert racism refers to implicit or subtle racial discrimination and is influenced by one's unconscious bias or learned ideology (Acholonu et al., 2020; Coates & Morrison, 2011). Covert racist acts may take the form of subtle slights or insults and are often identified as everyday microaggressions. Williams (2019a) states that microaggressions are "small, common, and sometimes ambiguous, yet they are particularly

stressful for those on the receiving end given their ubiquity and deniability” (p. 3).

Microaggressions stigmatize POC in all environments and adversely impact an individual’s mental health and wellbeing (Lilienfeld, 2017). Ackerman-Barger and Jacobs (2020) outline that the recipient of a microaggression is forced to take on the responsibility of determining the intent behind a microaggression, attempt to decipher its meaning, and decide upon an appropriate course of action. The accumulation of daily experiences with racism, discrimination, and microaggressions is closely associated with depression, anxiety, stress, and fatigue which may lead to poor physical and psychological health (Ackerman-Barger & Jacobs, 2020; Ackerman-Barger et al., 2019; Compton & Shim, 2015; Geronimus et al., 2006; Geronimus et al., 2010; Sue, 2010; Torino et al., 2019). Thus, it is essential to have safe environments and supportive interventions for individuals experiencing or witnessing discriminatory actions to gain the capacity to deal with and respond to such emotionally distressing stigmatization.

Racism and microaggressions take place in numerous workplace environments including the healthcare setting. Although the Canadian Nurses Association (2009) indicates that the data on race, ethnicity, and culture are not consistently collected for all health professions, strategies to enhance diversity in health professions such as the nursing workforce is needed. In a 2020 U.S. national nursing workforce survey, Smiley et al. (2021) note that there is greater racial diversity in the nursing profession than any other study year. However, despite increasing diversity, racism is still present in the realm of nursing and has led to inequality within clinical practice and academia (Beard & Julion, 2016; Iheduru-Anderson et al., 2020; Moceris, 2012).

Within clinical learning, minority nursing students are more likely to experience racism through acts of microaggressions; as such, they do not have the privilege of learning in a healthy environment without racial biases (Hall & Fields, 2012; Iheduru-Anderson et al., 2020).

Moreover, in addition to undergraduate nursing students having a high chance of being subjected to uncivil behaviours in their clinical placements that lead to physical and psychological consequences, the effects of racial bias and discrimination further impact the students' intellectual workload and may impede their academic performance (Ackerman-Barger & Jacobs, 2020; Minton & Birks, 2019; Sue, 2010; Sweller, 1988).

The damaging effects of racism and microaggression drive the need for professional resources to support undergraduate nursing students in responding to racism and microaggressions experienced in clinical practice. Thus, a literature search was conducted to investigate racism and microaggressions in healthcare and current resources available for undergraduate nursing students.

Reflexivity Statement

My life experiences relate closely to the role of intersectionality as I identify as being three types of a visible minority. I am visibly Muslim as I wear the hijab (headscarf). I am a woman, and I am referred to by the pronouns of "she/her". I am Black and of African descent. With all these characteristics together, I am highly susceptible to being a recipient of explicit or implicit bias relating to religion, sex, and race. Thus, I have personally experienced racism, discrimination, and microaggressions throughout my lifetime. I have also witnessed a fair share of overt acts of racism and heard of many distressing scenarios.

Another part of my identity is my role as a registered nurse. My clinical experiences include medical/surgical care and public health nursing. It has always been my nature to support those in need and provide holistic care for individuals along their healthcare journey. I am grateful to be a part of this important and essential profession that serves, honours, and advocates for diverse populations. While working in the world of healthcare, I have experienced some acts

of microaggressions as a Muslim Black registered nurse. These microaggressions were more often subtle slights that I imagine came from a place of ignorance, subconscious thoughts, or deep-rooted beliefs.

Some of the comments I've been the recipient of include patients being shocked that I could even speak English when it is, in fact, my first language. Additionally, patients have told me that I "speak very good English". One patient, who I was helping the primary nurse complete a dressing change, referred to me as "the help". This verbal assault was derogatory and made me feel inferior. While this comment was very disturbing and had an impact on my health and wellbeing, I felt that I shouldn't have addressed the situation as the patient was in a state of delirium. I also felt that not addressing this type of verbal abuse was commonly experienced by nurses and it is often an expectation that nurses should just accept verbal abuse. Additionally, as a novice nurse, I was shocked and did not know how to respond as nothing prepared me for this kind of experience in nursing school.

Another instance includes a patient asking if my name was only five letters long because others who look like me "shorten their names to make it easier to pronounce". This same patient then said that they were from a town that does not have much multiculturalism and stated "it's even worse in Toronto! I mean not worse, but they have people from Iraq, Baghdad...". During these situations, I often deflect the conversation and move on to something else to maintain my professionalism. But there is sometimes a sense of ambiguity, and it is difficult to decipher the exact meaning behind these comments. I may reflect upon it after my shift by talking to my family or friends and often just let it go. However, these microaggressions accumulate overtime and cause emotional distress especially for those without a support system.

I would have benefitted from the inclusion of nursing curricular content that explored racism and discrimination. It is imperative for nursing students to receive resources and tools to help them address forms of racism or microaggressions they may experience in clinical, rather than leaving them to fend for themselves. This would support nursing students during their academic years and throughout their journey as licensed nurses. With the implementation of these resources, as a novice researcher, I believe that it is essential to explore further how we, as nursing leaders, can best identify and develop resources that support nursing students.

Thesis Layout

This thesis consists of six chapters:

- 1) Chapter One is an introduction including the background, personal reflexivity statement, and thesis layout.
- 2) Chapter Two is the literature review focusing on the health implications and prevalence of racism and microaggressions in healthcare (directed at patients, healthcare workers, nurses, and nursing students) and clinical, virtual simulation content and debriefing in nursing education. The research aims and questions are identified at the end of the chapter.
- 3) Chapter Three provides the philosophical paradigm and theoretical framework guiding the research study.
- 4) Chapter Four reintroduces the research aims and questions and describes the research design, interventions, setting, sample and sampling plan, participant recruitment, data collection, data analysis plan, and research ethics.
- 5) Chapter Five presents the findings and results of the research study.

- 6) Chapter Six is the discussion of the findings and results and includes implications for nursing education, practice, and research, as well as study limitations, and conclusions.

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Chapter Two

Literature Review

Literature Review

A literature review was conducted to better understand what is known about the experiences of racism and microaggressions in healthcare settings and current supportive interventions for nursing students. In this chapter, the search strategy for the review, key concepts, and findings relevant to the phenomenon of interest will be discussed. The literature review will explore the concepts of racism and microaggressions, the experiences of racism and microaggressions in healthcare, current education for nursing students experiencing racism and microaggressions, clinical simulation in nursing, and the use and effects of virtual simulations, and post-simulation debriefing.

Search Strategy

A comprehensive literature search for this topic was completed using the CINAHL, PsycINFO (Ovid), Pubmed, Medline, Scopus, Embase, and Education Source electronic databases. These databases were accessed through the University of Ottawa's Health Sciences Library and captured various interdisciplinary research. The University of Ottawa Health Science Librarian also provided some initial guidance when navigating the databases. Following database searches, manual reference lists, grey literature, and Google scholar searches were completed to retrieve relevant literature. Cooke et al.'s (2012) sample, phenomenon of interest, design, evaluation, and research (SPIDER) tool for qualitative synthesis as a framework was used to guide the literature search. Search terms and database-specific Medical Subject Headings (MeSH) were used. All MeSH headings were searched using the "Explode" feature to maximize results.

Keywords and related search terms encompassed racism and microaggressions in healthcare, undergraduate nursing education, and clinical/virtual simulation. Boolean operator

terms of “OR” and “AND” were used to make the database searches more precise. The inclusion criteria were limited to all online journal or source types, primary research articles, quantitative or qualitative research studies, systematic reviews, peer-reviewed articles, English language literature, and articles published between 2011-2022. The exclusion criteria were non-English language literature, publications outside of search criteria, and resources that were only available as hard copies due to their inaccessibility. Mendeley was used to manage all references found.

The search yielded 564 publications and Covidence was used to sort through the retrieved articles. After duplicates were removed, title, abstract, and full-text screenings were completed. As a result, 59 articles were selected based on the search strategy. See Appendix A for saved searches of each database and search terms (Figure A1 – A7), an inclusion/exclusion criteria table (Table A1), and a PRISMA diagram (Figure A8).

Racism

Prior to discussing racism and microaggressions in healthcare, it is important to define these terms and their related concepts. Garcia and Mayorga (2018) identify race as falsely generalizing and stereotyping skin colour to explain observable characteristics and differences. As race is mainly used to categorize an individual’s skin colour, it is a socially constructed term that creates a marker of difference, cultivates aspects of privilege, and often influences socioeconomic status (Cartwright & Shingles, 2011; Johnson, 2018). In this way, racism – which is “an ideology that yields race-based privilege to White people and people who others perceive as White” – divides humans as inferior or superior groups and leads to biased stereotypes and harmful behaviours from others (Shannon-Baker, 2021, p.57; Solorzano & Yosso, 2002).

While racism may be presented as overt or covert, it is also individualized or institutionalized. Hilario et al. (2018) identify individual racism as racism that stems from

perceived beliefs of superiority based on race and is expressed from one person against another through individualized overt or covert acts such as hate crimes or racial slights. Individual racism is intricately linked to institutional or systemic racism which is racism experienced through practices and policies of businesses, organizations, or agencies (Hilario et al., 2018). This form of racism is systemic and is built within institutions that create lasting unequal relationships of power working against POC (Varcoe et al., 2013). Furthermore, organizations may have embedded racist ideologies which allow individual acts of racism to pass within their system without consequences and often lack support for the recipient of racism (Hilario et al., 2018).

Microaggressions

In simple terms, racial microaggressions may be identified as “racist micro-level interactions, comments or behaviours” (Agbaire, 2019, p. 1). Sue et al. (2007) describe these micro-level interactions in three different forms: microassaults, microinsults, and microinvalidations. While these different forms of microaggressions were defined by Sue et al. (2007), there are a few other scholars who agree and reference these types of microaggressions such as Ackerman-Barger et al. (2022), Shankar et al. (2019) and Williams (2021).

Microassaults are the deliberate and conscious verbal or nonverbal explicit attacks such as name-calling that are displayed in more private situations (Sue et al., 2007). **Microinsults** are often unconscious and more subtle insensitive statements that demean an individual’s racial identity (Sue et al., 2007). Sue et al. (2007) state that the context of these statements is important as it conveys a hidden message. For example, a registered nurse may ask an advanced practice registered nurse who is a person of colour (POC) “How did you get this job?” which takes on the notion that the POC is not qualified to be an advanced practice registered nurse or they have received their title through means other than their own ability. Lastly, **microinvalidations** are

unconscious comments or interactions that negate a POC's feelings, reality, or thoughts (Sue et al., 2007). A common modern example of microinvalidation is stating "I don't see colour" when speaking about racism and discrimination with a POC (Sue et al., 2007). This statement specifically invalidates and negates the lived experiences, discrimination, stigmatization, and marginalization of a POC. Nonetheless, it is sometimes difficult to understand the meaning behind these statements as they are ambiguous in nature. Therefore, the recipient of such microaggressions is tasked with the responsibility of continuously making sense of the racism-related experience (Lui, 2020). In conclusion, microaggressions are detrimentally powerful as they are often masked, committed quietly or invisibly, and done consciously or subconsciously.

Health Implications

POC are exposed to harmful behaviours within society that adversely affect their health and well-being. The recipients of racial discrimination and microaggressions have an increased risk for poor physical and mental health (Paradies et al., 2015). Depression, stress, anxiety, fatigue, low levels of self-esteem and well-being, and alcohol or drug use are among the psychological adjustments that POC experience when trialled with racism (Ackerman-Barger et al., 2019; Ackerman-Barger & Jacobs, 2020; Lui, 2020; Nadal et al., 2014; Torino et al., 2019). Lui (2020) explains that personal feelings of increased somatic reactions in response to stress also occurs after experiencing a racist event. These findings of mental health strain were especially prevalent in Asian Americans and Latinx groups (Paradies et al., 2015).

Racial trauma has been identified as relating to post-traumatic stress disorder (PTSD) with the distinction of repeated and ongoing exposures or re-exposures to racial stress (Comas-Diaz et al., 2019; Saleem et al., 2019). Saleem et al. (2019)'s research focuses on the developmental and ecological considerations of racial trauma for youth of colour. Saleem et al.

(2019) outlines different coping strategies to manage racial trauma including how “some youth may cope with racial trauma by dissociating or compartmentalizing” (p.8). However, dissociation or compartmentalization may lead to adverse effects further delaying a PTSD diagnosis and prolonging PTSD symptoms into adulthood (Saleem et al., 2019).

Moreover, Williams (2019b) identified a large body of evidence that showcases how microaggressions contribute to stress and worsen the recipients’ mental health and chronic illnesses. For example, in Beatty Moody et al.’s (2014) research study, everyday racism was a predictor for increased inflammation in nonobese minority women over a seven-year period, a risk factor for cardiovascular disease. Beatty Moody et al.’s (2014) research discovered that “Black and Chinese women reported greater discrimination than White, Japanese, and Hispanic women, while Black and Hispanic women had the highest levels of [C-reactive protein] over the 7-year period” (p. 298). As a result of these findings, everyday discrimination as a stress factor across various racially diverse backgrounds was found to be related to increased inflammation overtime for “normal-weight and overweight women” linking everyday discrimination to cardiovascular disease risk (Beatty Moody et al., 2014). Thus, Beatty Moody et al. (2014) highlight the necessity of resources for social stress such as everyday discrimination to improve long-term physical health.

Additionally, Zahodne et al.’s (2019) study found that discrimination was related to memory decline over a six-year period for adults aged 51 or older. In Zahodne et al.’s (2019) research, Black participants experienced greater discrimination than other participants and higher rates of discrimination was found to be linked to a lower baseline memory and faster memory decline. Overall, while it is perhaps impossible to eliminate racism and microaggressions within

society, advocating for POC and providing supportive resources to decrease the detrimental effects of discrimination is crucial.

Racism and Microaggression Experiences in Healthcare

The following paragraphs focus on racism and microaggressions experienced by patients, healthcare workers and students, including nurses and nursing students. As racism is perceived as a sociocultural factor and social determinant of health, minority individuals are susceptible to racism and microaggressions in their everyday lives (Paradies et al., 2015). They may experience it in their neighbourhood, at the grocery store, at school, at work, and/or in the healthcare field. As a result, POC have an increased risk for healthcare disparities and are further disadvantaged through discrimination when they present as patients who require care in institutional settings.

Patients

The health disparities for racial minorities as patients vary across the interdisciplinary world of healthcare. For example, health disparities for racial maternal and infant health are much greater than their White counterparts. Subsequently, evidence demonstrates that Black women and Indigenous or Native women are more likely to die from childbirth or have their children die before their first year of life even in developed countries (Serbin & Donnelly, 2016; Bond, 2011; MacDorman, 2011). In Canada, Indigenous pregnant women are at an increased risk for gestational diabetes, high blood pressure, and are twice more likely to die during pregnancy (Mazzia & McLaughlin, 2022). Additionally, Indigenous infants and babies have higher rates of poor birth outcomes and are seven times more likely to die due to Sudden Infant Death Syndrome (SIDS) (Mazzia & McLaughlin, 2022). In recent literature surrounding the COVID-19 pandemic, there has been health disparities for Black individuals. According to Gross et al.

(2020), Black individuals were approximately 3.6 times more likely to die from the virus than White individuals (Gross et al., 2020).

Minority patients have more significant risks for health disparities and are also at risk of being racially abused by healthcare workers. For example, Joyce Echaquan was a 37-year-old Indigenous Canadian woman who presented to a hospital with abdominal pain. She was met with blatant racist remarks from hospital staff such as “she would be better off dead”, received poor healthcare, and died shortly after posting a video of what the hospital staff were saying to her online (Godin, 2020). Joyce Echaquan’s story was only one of the many distressing stories of racial abuse in Canada in the last few years. In 2021, Mirielle Ndjomouo was a 44-year-old Cameroonian Canadian single mother in Quebec who died two days after receiving penicillin despite her repeatedly telling the hospital staff that she was allergic (Cori-Manocchio, 2021). Mirielle Ndjomouo posted a video online asking for help as she was having trouble breathing, had pain and swelling, and said that the penicillin injections only stopped when a nurse noticed that her lips were swollen (Cori-Manocchio, 2021). Joyce Echaquan and Mirille Ndjomouo’s stories are staple examples of the need for cultural competence and cultural safety education for healthcare workers and a more diverse healthcare workforce. Nevertheless, minority healthcare workers and students are also vulnerable to racism and microaggressions in their school and clinical practice and are challenged with a sense of inequity and exclusion themselves (Ehie et al., 2021). The following paragraphs look at research on racism and microaggressions against healthcare workers and students such as physicians, residents, and physiotherapists, and nurses and nursing students.

Healthcare Workers and Students

Diversity, inclusion, and education on cultural competency have been identified as core themes for education for healthcare workers. Nonetheless, medical providers such as physicians of colour are not exceptions to POC who experience racism and discrimination. Research has shown that physicians of colour are often targets of racial discrimination from patients and families (Hu et al., 2019). In Hu et al.'s (2019) study, 16.6% of surgical resident participants experienced racial discrimination in their training; patients and/or patients' families were responsible for 47.4% of the discrimination. Mistreatment such as racial discrimination was related to burnout (Hu et al., 2019). Hu et al. (2019) further suggest that surgical residents may benefit from training related to responding to mistreatment whether they are the direct recipient or a witness to such discrimination. Additionally, some patients may refuse care from physicians of colour or hospital staff based on their racial or ethnic backgrounds (Paul-Emile et al., 2016). In Quebec, allegations against a health authority human resources department were being investigated in 2021 as one of its hospitals' job requirements was being White (Turnbull & Leavitt, 2021). This supposed job requirement was included as there were 10 requests for White women staff from patients (Turnbull & Leavitt, 2021).

Medical students also experience encounters with patients that depict aspects of microaggressions, such as microinsults. In Kristoffersson et al.'s (2021) research study, a minority medical student was asked if they were an assistant nurse or a patient transporter in all of their clinical placements. While this medical student did not think anything was wrong with being an assistant nurse or patient transporter, the comments made them feel as though they had to look a certain way to be a medical student or physician (Kristoffersson et al., 2021). Such repeated exposure to microaggressions adversely impacts one's mental health and academic success (Ackerman-Barger & Jacobs, 2020).

Physiotherapists are among several other healthcare workers who experience racism within their profession. Vazir et al. (2019) note a lack of attention to the racism and discrimination physiotherapists of colour experience within the Canadian physiotherapy community. The participants in Vazir et al.'s (2019) study were licensed physiotherapists and have indicated that they have experienced institutionalized and personal racism. Indigenous participants described their experiences with institutionalized racism related to a lack of access to jobs as the physiotherapy profession reflected a "White profession" (Vazir et al., 2019). Additionally, a lack of access to resources and being at a disadvantage when entering the physiotherapy profession was noted by Indigenous participants as one participant described that those "who enter the profession are expected to assimilate into the profession, and the cultural identity of our profession isn't a racialized one... if the expectation is assimilation... we don't really think about accommodation for race" (Vazir et al., 2019, p. 339).

A personal experience of racism that was discussed involved a Brown skin physiotherapist where a patient referred to them as "Slumdog Millionaire" (Vazir et al., 2019, p. 340). The physiotherapist felt professionally obligated to take the comment lightly even though it was blatantly racist (Vazir et al., 2019). This is an example of the dismissiveness and invisibility of a microaggression. The patient may have consciously or unconsciously made the microaggression, but the physiotherapist of colour was left alone to make sense of the comment.

Nurses and Nursing Students

The intersectionality of the nursing profession brings forth an awareness of the racism and microaggressions nurses and nursing students experience. While racism by healthcare workers or staff is the most recognized form of racism in health care, nurses and nursing students who provide direct patient care are vulnerable to discrimination in their clinical practice (Etowa

et al., 2015). Etowa et al. (2011) indicate that the racism enacted by patients and staff against minority nurses including Indigenous and immigrant nurses is gaining more attention as a healthcare issue. Current literature surrounding the issues of racism and discrimination in nursing tends to focus on the contexts of discrimination faced by nurses in nursing leadership (Iheduru-Anderson & Wahi, 2021), institutionalized or systemic racism experienced in the nursing curriculum or nursing practice (Ackerman-Barger & Hummel, 2015), and the racial bias against nurses or nursing students. This unconscious bias may involve faculty actions within the academic environment or nurses/preceptors in the clinical setting. Within an academic environment, Canadian undergraduate and graduate nursing students in Zanchetta et al.'s (2021) research study on the invisibility that shields racism in nursing education and practice indicate that there is a lack of awareness, acknowledgement, and a direct and systematic plan to tackle racism by nursing faculty perpetuating silence and normalization of racism in nursing education. Altogether, this was found to exemplify the power of racism as it occurs in all spaces, especially within education and practice (Zanchetta et al., 2021).

Of interest, a few peer-reviewed articles that focus on the racial discrimination nursing students experience when interacting with patients in clinical practice will be explored. Koch et al.'s (2014) qualitative study discovered that ethnic, race, and language comments accounted for the majority of racial discrimination experienced by practicing nurses and nursing students. Within this study, a clinical facilitator voiced that the language comments made about minority nursing students' English skills were "a lightning rod for racism" (Koch et al., 2014, p.22). This is especially the case for those who have English as a second language such as international nurses or nursing students (Minton & Birks, 2019). Consequently, Sue et al. (2007) indicate that language comments to a POC such as "You speak English very well", are considered to be

microinsults as there is a hidden message behind the comment that stereotypes that POC generally do not speak English well. Additionally, an Asian second-year nursing student in Koch et al.'s (2014) study had a patient who refused care based on their ethnicity (Koch et al., 2014). The authors concluded that ethnicity was a strong predictor of exposure to prejudice and racism in nursing students' clinical learning environments (Koch et al., 2014).

While Scammell and Olumide's (2012) research study focused on nurses who were the recipients of racial discrimination, it showcased real scenarios where the victims or bystanders of racism were unsure how to respond to or challenge the unacceptable behaviour performed by the patient. For example, in one clinical setting where a White patient made a latent sexist and racist comment that was intended to be a joke about a Black African internationally recruited nurse (IRN), the Black African IRN and her buddied White nursing student heard the comment, did not reply, and looked away (Scammell & Olumide, 2012). Dismissal of sexist and racist microaggressions by staff, nursing students, and other patients may be interpreted as disdain or condoning of the behaviour. However, it also implies that the victim and bystanders did not have the cultural competence, knowledge, expertise, or tools to effectively manage the microaggression and maintain professionalism while providing care. Accordingly, such racialized behaviours were identified at the individual level and reinforced by institutional processes that did not support minority nurses (Scammell & Olumide, 2012).

Racial discrimination in the classroom setting and clinical practice has been described as negatively impacting nursing students' confidence and learning capability (Chittick et al., 2019). Minority students' academic success is further endangered by racial microaggressions (Nadal et al., 2014). Although, within the literature, there were no evident resources for nurses or nursing students to respond to racism and microaggressions. The participants in Chittick et al.'s (2019)

study relied on their own personal strategies that they learned in life to resist racism and uphold personal safety in their clinical placements. Participants were forced to navigate the racist experiences they had in their clinical practice by themselves without support from their school.

All in all, the literature has exhibited that nursing students are vulnerable individuals wrongfully exposed to racial discrimination and derogatory comments in their clinical practice that hinder their wellbeing and academic learning. Thus, there is an urgent need for interventions in nursing education to help guide nursing students' in navigating the racial abuse experienced in clinical practice and create a healthy and inclusive learning environment.

Nursing Education

In undergraduate nursing programs, there is an emphasis on educating nursing students on providing culturally competent care for patients to attain health equity through patient-centred care and therapeutic nurse-client relationships (Iheduru-Anderson et al., 2020). In Canada, the Canadian Association of Schools of Nursing (CASN) has written an anti-racism statement that calls nurse educators to create anti-racist environments for nursing students and nurses (CASN, 2020). Furthermore, the Canadian Nurses Association (CNA) along with leaders of multiple other nursing associations have released two nursing declarations against anti-Indigenous and anti-Black racism in nursing and health care (CNA, 2021). However, there is limited to no focus on the realities and issues of racism and harmful bias that nursing students experience and there is a lack of systemic education on anti-racism for nursing students (Iheduru-Anderson et al., 2020). Furthermore, there are no professional resources to support undergraduate nursing students' cultural safety in addressing the racism and microaggressions they face in their clinical practice and education. Therefore, rather than not acknowledging these emotionally and

psychologically distressing situations, an educational intervention to support nursing students is crucial in maintaining their health and academic wellbeing.

Clinical and Virtual Simulation

Clinical simulation in undergraduate nursing programs is the most accurate representation of a patient care setting in nursing education. It provides students with the ability to engage in real-life scenarios (Larue et al., 2015). Theoretical content can be applied in a mock clinical setting which helps bridge theory and practice for nursing students (Cant & Cooper, 2017). Virtual simulation games (VSGs) are a modernized version of simulation that provides a safe environment for students as active learners and supports students in increasing their knowledge (Sapiano et al., 2018).

VSGs, also known as educationally purposeful gaming, are part of a growing simulation modality and incorporate teaching, learning, communication, and game-playing aspects from video games to foster an engaging format of learning (Atthill et al., 2021; Keys et al., 2020; Lelardeux et al., 2013; Luctkar-Flude et al., 2021a; Padliha et al., 2019). VSGs utilize web-based and multi-player programs that incorporate virtual patients, people, and environments depicted by real people using simulated systems to replicate clinical scenarios (Padliha et al., 2019). It features various scenarios that require responses or interventions by the learner who can apply their theoretical nursing knowledge and choose an appropriate course of action (Atthill et al., 2021; Verkuyl et al., 2017). Virtual simulations incorporate prebriefing which is the presimulation information provided to orient, prepare, and brief learners on the overall simulation process and scenario content (INACSL Standards Committee, 2021). After completing a virtual simulation, there is synchronous or asynchronous debriefing which is instructor-led or self-led debriefing methods. The debriefing process fosters reflection upon the

learning objectives or outcomes from the clinical scenario (Atthill et al., 2021). The combination of virtual simulations and debriefing support students in increasing their self-confidence to engage in the clinical setting (Cobbett & Snelgrove-Clarke, 2016).

Virtual Simulation Debriefing

The post-virtual simulation debriefing sessions are essential and critical components for learners' self-reflective process. Decker et al. (2013) note debriefing as a facilitated phase that promotes reflective thinking following simulation. The International Nursing Association for Clinical Simulation and Learning (INACSL) Standards Committee (2021) indicates learning as being dependent upon the link between experience and reflection. Reflective and debriefing processes promote new knowledge or cognitive reframing, enhance learning, self-awareness, self-efficacy, and focus on participant professional role development (Dismukes et al., 2006; Fanning & Gaba, 2007; INACSL Standards Committee, 2016). Numerous debriefing methods have been developed to optimize learners' ability to engage in reflective thinking, promoting decision-making skills (Decker et al., 2013; Forneris et al., 2015; Luctkar-Flude et al., 2021b). With an increase in opportunities for diverse debriefing methods and increased use of virtual simulation, the type and effectiveness of debriefing models are imperative to explore (Luctkar-Flude et al., 2021b).

Effects of Virtual Simulations

Virtual simulations increase student engagement and can be culturally relevant, appropriate, and provide a variety of common and uncommon clinical scenarios (Auman, 2011; Chiniara et al, 2013; Keys et al., 2020; Padilha et al., 2019). Moreover, virtual simulations provide the opportunity for a variety of clinical scenarios to be presented in nursing school or work-related learning environments. The Canadian Alliance of Nurse Educators Using

Simulation (CAN-Sim, n.d.) provides a collection of educational VSGs for nurse educators, nurses, faculty, and nursing students to support student and practicing nurses in their clinical learning. Furthermore, there are three nursing research studies on Canadian VSGs that relate to nursing education in diverse topics such as cardiac resuscitation education, pre-simulation respiratory distress learning, and sexual orientation and gender identity (SOGI) nursing education toolkits (Keys et al., 2020; Luctkar-Flude et al., 2021a; Luctkar-Flude et al., 2020).

Overall, the effects of virtual simulations ranged across research studies but have led to improved knowledge, critical thinking, communication, clinical decision-making skills, problem-solving skills, self-efficacy, and confidence (Cant & Cooper, 2017; Forsberg et al., 2016; Luctkar-Flude et al., 2021a; Schubert, 2012; Shinnick & Woo, 2013; Terzioglu et al., 2016). After reviewing the literature, virtual simulations and VSGs were discovered to improve clinical competencies and support nursing students throughout their clinical learning. However, what currently exists in virtual simulation scenarios generally center around medical-surgical content, health assessments, and skills/interventions (Keys et al., 2020; Luctkar-Flude et al., 2022; Tyerman et al., 2021a). In nursing virtual simulations, there is a focus on medical-surgical content as well as mental health content, nursing education, and nursing skills (Tyerman et al., 2021b). The only culturally relevant virtual simulations are encompassed in the SOGI nursing toolkit showcasing a lack of virtual simulations exploring racism and microaggressions.

Compelling Arguments

The results of this literature review emphasize racism, discrimination, and microaggression as existing in nursing education and clinical practice – especially related to nursing students. The literature review has also demonstrated that there is no current nursing education or interventions to support nursing students who experience racism or

microaggressions within their clinical practice. However, virtual simulation is an effective tool and has previously shown enhanced learning outcomes. Thus, a research study was conducted to investigate the perceived effectiveness of a racism and microaggression virtual simulation and debriefing for undergraduate nursing students.

Research Aims

The aim of this study was to investigate the perceived effectiveness of a virtual simulation module (pre-simulation preparation, virtual experience, debriefing) to guide nursing students in addressing incidents of racism and/or microaggression experienced in the clinical setting. A secondary aim explored participants' experience and perceived effectiveness of the CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) Debriefing Framework: Debriefing Sensitive Topics.

Research Questions

1. What is the perceived effectiveness of a virtual simulation module (pre-simulation preparation, virtual experience, debriefing) exploring practical management of racism and microaggression in the clinical setting on learning for undergraduate nursing students?
2. What are participants' perceptions of the CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) Debriefing Framework: Debriefing Sensitive Topics when applied as a debriefing tool for a virtual simulation module?

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Chapter Three

Philosophical Paradigm and Theoretical Framework

Philosophical Paradigm: Pragmatism

Charles Sanders Peirce, William James, and John Dewey are among the renowned philosophers and psychologists recognized as the originators and leading figures of pragmatism (Cornish & Gillespie, 2009). Pragmatism originates from the Greek word meaning action, in which ‘practice’ and ‘practical’ originated (Doane & Varcoe, 2005). As a philosophical paradigm, pragmatism is rooted in the belief that actions are inseparable from human experiences, including the knowledge that has been created from those experiences (Kaushik & Walsh, 2019). Subsequently, the consequences of individual actions shape future ways of thinking and are the driving force of belief and the meaning of human experiences (Kaushik & Walsh, 2019). In an epistemological stance, pragmatism espouses common sense and practicality, and knowledge is seen not as reality but as a tool for action (Cornish & Gillespie, 2009; Legg, 2008). Similarly, Kaushik and Walsh (2019) note that actions are a practical means to change the world and change existence. Hence, the usefulness of knowledge, theories, and actions are investigated and judged (Cornish & Gillespie, 2009).

Within research, Creswell and Plano Clark (2011) distinguish the pragmatist paradigm as relating to the actions and consequences of inquiry which ultimately focuses on the phenomenon and research questions under study. Pragmatism is not restricted to a singular system of philosophy or reality but focuses on the “what” and “how” of research (Creswell, 2015). Pragmatism is practical and often associated with multiple methods of inquiry to achieve optimal evidence (Polit & Beck, 2016). Multi-method research or mixed-method research closely aligns with pragmatist worldviews and is required to understand the naturally occurring knowledge and reality from various individual perspectives (Creswell & Plano Clark, 2011; Polit & Beck, 2016; Reed et al., 2016; Teddlie & Tashakkori, 2009).

Furthermore, pragmatist research encompasses an understanding of complex phenomena including health-related concerns and is present in nursing research and practice (Flemming, 2007; Reed et al., 2016; Teddlie & Tashakkori, 2009). Nursing reflects a diverse, practice-based discipline and favours a holistic method of problem-solving to enhance healthcare. Weaver and Olson (2006) note that the pragmatic approach in nursing research is advantageous as it facilitates addressing research questions with a range of options. Consequently, pragmatism in nursing enhances critical thinking by focusing on intelligent action, practical knowledge, and subsequent decisions (Banfield, 2011; Dewey, 2011; Reed et al., 2016).

The pragmatic approach is closely related to the use of simulation in nursing education and the proposed research study. Through the implementation of a virtual simulation as an intervention in addressing racism and microaggressions in clinical settings, nursing students can immerse themselves in a new experience that is action-based. As a result, new knowledge is derived from the actions in the virtual simulation that are inseparable from human experiences. Overall, through an inclusive pragmatic approach, the practicality of knowledge and actions originating in the virtual simulation may be investigated.

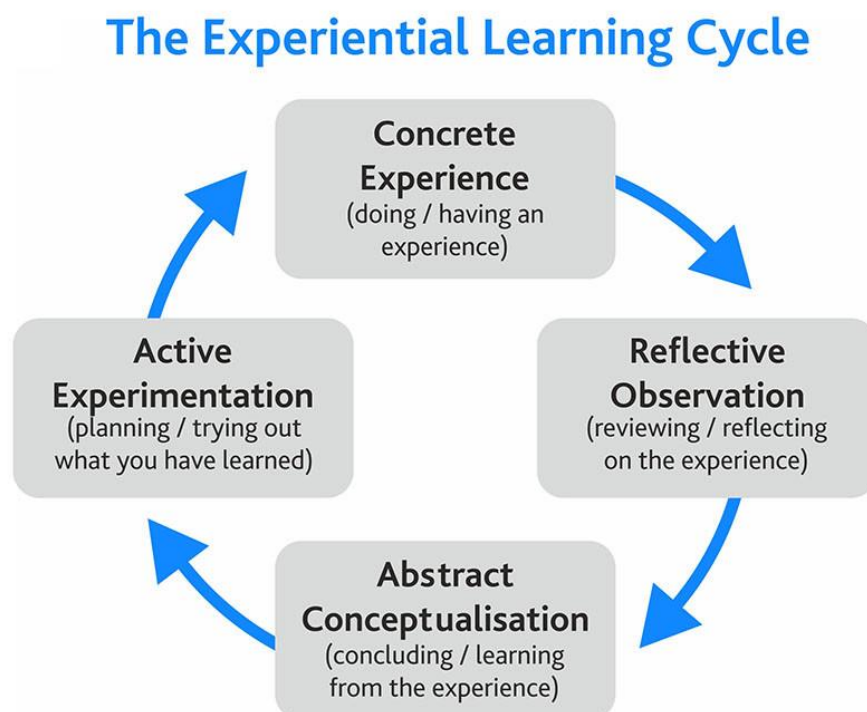
Theoretical Framework: Kolb's Experiential Learning Theory

The main concepts and defined terms within this research study are racism, microaggressions, undergraduate nursing students, clinical simulation, and virtual simulations within nursing education. One of the established theories guiding this research and relating to virtual simulation and clinical learning is Kolb's (1984) Experiential Learning Theory (ELT). Kolb's (1984) ELT encompasses learning centered concepts and is the most commonly cited theoretical framework in virtual simulation research studies (Crane et al., 2021; Atthill et al., 2021; Verkuyl & Hughes, 2019; Foronda & Bauman, 2014).

Kolb's (1984) ELT reflects a learning process cycle based on the idea that learners create knowledge by interacting with the environment. Kolb (1984) states that learners progress through a four-stage cycle (Figure 1): (1) concrete experience; (2) reflective observation; (3) abstract conceptualization; and (4) active experimentation. Essentially, concrete experiences allow learners to immerse themselves and engage in an activity. For example, such an activity could be clinical simulation or virtual simulations. Reflective observation encompasses reflecting, questioning, and discussing the experience with others including teachers or educators. Abstract conceptualization incorporates classifying concepts learned to draw conclusions. Active experimentation results in applying their newly acquired knowledge in new practice environments. In this way, Kolb's (1984) ELT is cyclical and evidently ends with a new experience that begins the cycle again.

Figure 1

Kolb's (1984) Experiential Learning Theory Cycle



Note. The image represents Kolb's (1984) ELT in a four-stage cycle. From *What are Kolb's learning styles and what do they mean*, by S. McPheat, 2017, Skillshub.

(<https://www.skillshub.com/what-are-kolbs-learning-styles/>). Copyright 2017 by S. McPheat.

Each stage closely relates to pragmatism and the use of a virtual simulation in clinical nursing education as nursing students have the ability to engage in a virtual simulation through the role of the nurse, reflect upon the experience and their understanding through debriefing, analyze newly learned concepts of racism and microaggressions to gather conclusions, and apply the knowledge learned in practice. Thus, the design of this research study relates to pragmatism and was informed by Kolb's (1984) ELT and structured for students to progress through the experiential learning cycle successfully.

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Chapter Four

Methodology

Research Aims

The aim of this study is to investigate the perceived effectiveness of a virtual simulation module (pre-simulation preparation, virtual experience, debriefing) to guide nursing students in addressing incidents of racism and/or microaggression experienced in the clinical setting. A secondary aim will explore participants' experience and perceived effectiveness of the CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) Debriefing Framework: Debriefing Sensitive Topics.

Research Questions

1. What is the perceived effectiveness of a virtual simulation module (pre-simulation preparation, virtual experience, debriefing) exploring practical management of racism and microaggression in the clinical setting on learning for undergraduate nursing students?
2. What are participants' perceptions of the CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) Debriefing Framework: Debriefing Sensitive Topics when applied as a debriefing tool for a virtual simulation module?

Research Design

This research study incorporated a virtual simulation module and a debriefing framework as interventions to address two research questions. A multiple method design addressed these research questions through the mixture of closed-ended, quantitative data with open-ended, qualitative data which strengthened the research study as it enabled the investigator to better understand the research questions of interest (Creswell, 2015). Within this research study, the complexity of exploring the impact of emotionally stimulating interventions required the use of

structured methods to determine its effect and exploration of personal experiences for a holistic overview. Furthermore, within a pragmatist research context, a pluralistic view of research is encouraged which is also encompassed in multiple method approaches (Polit & Beck, 2016).

Sequencing and prioritization of data are essential factors within this research study. The sequencing of data collection occurred sequentially as quantitative data was collected first followed by qualitative data collection (Polit and Beck, 2016). Prioritization of data was influenced by the emphasis of quantitative or qualitative approaches (Polit & Beck, 2016). Quantitative or qualitative data is usually given a dominant status and the other data will be complementary to the dominant approach (Polit & Beck, 2016). Quantitative data related to the Simulation Effectiveness Tool-Modified (SET-M) was given dominant status while qualitative data on the perceptions and experiences with the CAN-Sim CHIPS Debriefing Framework: Debriefing Sensitive Topics was complementary. The harmonizing effect of quantitative and qualitative data provided further insight and comprehension of undergraduate nursing students' experiences with the VS and debriefing framework. To summarize the major features of this research design, Morse (1991) created a notation system. The notation for this multiple method design is as follows: QUAN → qual. The QUAN → qual notation designates the quantitative approach as dominant and the arrow sign showcases the sequential nature of data collection (Polit & Beck, 2016).

Interventions

Yasmin's Story Virtual Simulation Module

The educational intervention in this research study is a filmed virtual simulation labelled Yasmin's Story. This virtual simulation was developed to provide a linear and concise approach for nursing students to utilize when addressing microaggressions in the clinical setting. The

approach utilized in Yasmin's Story is the 6-Step Approach outlined by Shankar et al. (2019). Prebriefing includes learning objectives/outcomes, a simulation scenario summary, and required peer-reviewed readings on types of microaggressions and Shankar et al.'s (2019) 6-Step Approach. Eight decision points within the simulation reflect the 6-Step Approach and the virtual simulation learning outcomes. For each decision point, there are three possible responses with one correct answer. Students must select the best course of action to move on to the next scene and decision point. Rationales are provided for each decision selected by the student. Upon completion of the virtual simulation, students will engage in reflection and a debriefing session conducted by a skilled facilitator. The virtual simulation may be provided virtually, in the classroom, or in the clinical laboratory setting based on the course structure.

CAN-Sim Cultural Humility and Intersectionality for Psychological Safety Debriefing

Framework: Debriefing Sensitive Topics

The CAN-Sim CHIPS Debriefing Framework is a framework provided during the post-simulation debriefing session (Tyerman et al., n.d.). It is an emotionally charged framework that assists learners in identifying their feelings and emotions related to a simulation game or module. Learners self-monitor their emotional response ranging from minimal (1-3), moderate (4-6), or severe (7-10) and are guided to process these emotions in a psychologically safe environment. The purpose of the CAN-Sim CHIPS Debriefing Framework is to support learners in recognizing and expressing their feelings or emotions, facilitate the self-reflective process, provide meaning to their experiences, and provide insight into learners' perspectives (Tyerman et al., n.d.).

Setting

The study took place at an Ontario university within a third-year medical-surgical clinical course. During this clinical practicum, undergraduate nursing students completed a hybrid virtual

and in-person clinical experience. The VS module was a course requirement for students enrolled in the course. Students interested in participating in the study shared their SET-M evaluation with the research team and participated in synchronous debriefing using the CAN-Sim CHIPS Debriefing Framework: Debriefing Sensitive Topics led by the principal investigator (HY) who is trained in debriefing. Students who did not wish to participate in synchronous debriefing completed the required VS module, the SET-M, and asynchronous debriefing using self-reflective questions.

Sample and Sampling Plan

The sample consisted of third-year undergraduate nursing students enrolled in a medical-surgical clinical practicum course within an Ontario Bachelor of Science in Nursing (BScN) program. An accessible population from this entire aggregation were nursing students enrolled in the undergraduate BScN program at the selected university. The sampling plan represented characteristics closely approximating the target population, including undergraduate nursing students with simulation laboratory learning and clinical practice. Upon review of the course structure within the BScN program at the selected university, the most practical sample that showcased the representativeness of the target population were third-year nursing students who were in the midst of their studies and have had previous simulation and clinical practice experiences. Third-year nursing students were an ideal sample as they were familiar with simulation components including roles and responsibilities which was crucial when completing an emotionally sensitive VS module. Additionally, third-year nursing students had experience with previous post-simulation debriefing which promoted engagement, enhanced psychological safety, and facilitated introducing a newer debriefing framework as students were familiar with the debriefing process. Moreover, third-year nursing students would be able to utilize the

education provided in the VS module for the purposes of their current course, as well as for the remainder of their studies.

Convenience sampling, a form of non-probability sampling, was employed to recruit all third-year nursing students who met the eligibility criteria in the fall semester of their studies. Within the convenience sampling plan, nested sampling was used. Nested sampling or a nested relationship occurs when the qualitative participants are a subset of the participants in the quantitative strand (Polit & Beck, 2016). Therefore, a smaller portion of the participants who completed the SET-M also completed the CAN-Sim CHIPS Debriefing Framework: Debriefing Sensitive Topics with the principal investigator.

Inclusion and Exclusion Criteria

The sampling design included the following participant inclusion criteria: (a) University of Ottawa BScN student; (b) enrolled in the fall year semester and taking the medical-surgical theory/clinical course NSG3305/NSG3705; (c) has had prior simulation laboratory learning and clinical practice experience; and (d) the ability to speak, read, and write English or French. The exclusion criteria included BScN students enrolled in any non-listed course, no simulation laboratory learning and clinical practice experience, and an inability to speak, read, and write English or French. There were no exclusions related to accessibility as the VS module adhered to the Accessibility for Ontarians with Disabilities Act (AODA) and included closed-captioning, video sliders, and HTML word options.

Participant Recruitment

The recruitment process for eligible participants was completed with permission from the University of Ottawa School of Nursing. Eligible participants did not have direct relationship with any of the researchers. With permission, recruitment strategies included: (1) a poster

explaining the purpose of the research study with the researcher's contact information uploaded on the LMS announcement page in the NSG3305/3705 course, and (2) the research opportunity was discussed during a pre-recorded brief presentation within the NSG3305/3705 course in the fall semester and students were encouraged to contact the researcher with any questions or concerns. Once participants were recruited, full consent was obtained, and participants were assigned a participant I.D. number and/or pseudonym for the qualitative strand of the study. As an added incentive to encourage participation, all study participants were eligible to win one of four \$25 gift cards and a \$10 gift card was provided to those who completed the qualitative strand. See Appendix B for English and French recruitment script/letter of information and recruitment posters.

Sample size

The estimated sample size was based on approximately 100 – 150 student enrollments in the medical-surgical clinical course in the fall 2021 semester. With this estimated population size, a 95% confidence level, and a 5% margin of error, 80 – 109 participants would be needed. However, there was an expected 30% response rate leading to a minimum number of 30 – 45 participants.

In the fall 2021 semester, there were a total of 114 students enrolled in the English medical-surgical clinical course and a total of 72 students enrolled in the French stream. After obtaining consent, 47 students agreed to participate in the quantitative strand of the study. Of the 47 participants, 39 participant responses were eligible for data collection and analysis as other responses were incomplete. Within this sample size, 7 participants provided consent to complete the qualitative strand of the study. Of these 7 participants, 2 participants responded and completed the qualitative interviews.

Data Collection

Inter-method mixing of data collection reflects the multiple method design of this research study. Inter-method mixing refers to using two or more different data collection methods such as an instrument and interview (Johnson & Turner, 2003). Sociodemographic data/participant information was collected for each participant at the start of the research study (see Appendix C). Quantitative data collection was collected using the Simulation Effectiveness Tool-Modified (SET-M) instrument with permission from the instrument's author, Kim Leighton (Leighton et al., 2015). The SET-M is an instrument that measures nursing students' perceived effectiveness of the VS and can be analyzed through statistical analysis procedures. Results of the SET-M was used to answer the first research question. Qualitative data collection was obtained from semi-structured interviews with interested participants following the debrief. This addressed the second research question. Data collection methods were not integrated or triangulated during data analysis due to the small sample size for qualitative data collection. All data collection and research activities concluded in the Fall 2021 semester.

Simulation Effectiveness Tool-Modified

A post-simulation survey collected quantitative data using the SET-M tool. All participants completed the SET-M, a 19-item scale assessing participants' perception of the effectiveness of learning in the virtual simulated environment. Subscales of the tool focus on essential aspects of simulation-based learning including prebriefing, learning, confidence, and debriefing (Leighton et al., 2015). The 'learning' (6 items) and 'confidence' (6 items) statements encompass the scenario subscale. Using a 3-point Likert scale (3=strongly agree; 1=do not agree), participants indicated responses to statements such as "Pre-briefing increased my confidence," "I am better prepared to respond to changes in my patients' condition", or "I am

more confident of my nursing assessment skills” (see Appendix D). Within the ‘learning’ items, there is the following statement: “I developed a better understanding of medications. (Leave blank if no medications in scenario)”. This item was omitted from the SET-M survey provided to participants to avoid confusion. The SET-M has a Cronbach alpha ranged from 0.83 to 0.91 across the subscales (Leighton et al., 2015). The original SET demonstrated construct validity and retained its validity with the addition of the prebriefing and debriefing constructs for the SET-M (Leighton et al., 2015). The SET-M was selected based on its relevance as a post-measure of learners’ perception of the effectiveness and evidence of reliability and construct validity.

Semi-Structured Interviews

Following the post-simulation one-on-one debriefing session using the CAN-Sim CHIPS Debriefing Framework, semi-structured interviews collected qualitative data. The semi-structured interviews included a total of six open-ended questions pre-approved by the thesis committee that related to the participants’ experience using an innovative debriefing framework for sensitive topics (see Appendix E). Once consent was obtained from participants, the principal investigator organized and conducted individual interviews with participants. Each interview lasted approximately 15-30 minutes. Due to continued restrictions of COVID-19, interviews were conducted over the secured Zoom © video-conferencing platform. As such, participants selected a location suitable to their preferences to complete the interview. Interviews were recorded using the University of Ottawa’s Zoom’s © recording feature. Video recordings assisted the researcher in obtaining accurate verbal and non-verbal data. Participants were informed they can turn off the video feed if preferred and may refrain from answering questions they did not wish to discuss.

Data Analysis Plan

Quantitative Analysis

The quantitative data obtained from the participant characteristics and SET-M were analyzed through statistical analyses using the Statistical Package for Social Science (SPSS version 27) program. Descriptive statistics such as frequencies, percentages, ranges, means, and standard deviations were used to report participant characteristics, evaluate differences across participant characteristics, and display SET-M subscale and statement scores. Additionally, Cronbach's Alpha was used as a coefficient of reliability and internal consistency to measure the study's scale reliability compared to the original SET-M Cronbach's Alpha. Next, tests for normality were completed to determine if the data was normally distributed and to determine the use of non-parametric or parametric tests for inferential statistical analyses. Inferential statistics were used to run tests to identify the presence of relationships or differences between participant characteristics and SET-M scores. After completion of statistical analyses, the SET-M scores will be discussed to determine the overall perceived effectiveness through identifying low scoring items (Leighton et al., 2018).

Regarding participant characteristics, the number of groups for age and gender was kept the same for statistical analysis. In contrast, the number of groups for race was recoded and reduced from nine (Black/African/Caribbean of African Descent, White, East Asian, South Asian, Southeast Asian, Indigenous, Middle Eastern, Mixed, Other) to two (non-White or White participants) to allow for similar sample sizes as eight groups had equal or less than five participants. Kruskal-Wallis test was conducted to compare SET-M scores to age and SET-M scores to gender as there were more than three groups per independent variable. Mann-Whitney U test was conducted to compare SET-M scores to race categories as there were two groups per

independent variable. The level of significance for all tests was $p < .05$ to determine the presence of a significant relationship.

Qualitative Analysis

The qualitative data obtained from the interviews on the CAN-Sim CHIPS debriefing framework was analyzed through thematic analysis (Polit & Beck, 2016). The first step in the process included transcribing data from the interviews (Polit & Beck, 2016). Each interview was transcribed verbatim by the researcher for this study, and line-by-line analysis was conducted by the principal investigator (HY) and thesis advisor (JT). Following transcription, interview lines were extracted to create condensed meaning units that were used to generate codes which facilitated connecting and relating common themes. Conceptual themes and patterns across transcripts were outlined to identify similarities and inconsistencies among data from the interviews. Accordingly, the thematic analysis approach was displayed in a tabular format to showcase the transcribed data, condensed meaning units, codes, and themes (Polit & Beck, 2016).

Quality Criteria

To evaluate the quality of research, inference quality and inference transferability were utilized. Inference quality reflects the internal validity and statistical conclusion validity of quantitative data and the credibility of qualitative data whereas inference transferability reflects the external validity of quantitative data and the transferability of qualitative data (Polit & Beck, 2016). To strengthen the quality of this research study, the design, sampling plan, and data collection methods were taken into consideration. The sequential multiple method approach of the study allowed for rigorous incorporation of two research strands which contributed to stronger inferences about the phenomena under study (Polit & Beck, 2016). Convenience and

nested sampling recruited all members of the target population who met the eligibility criteria and enhanced representativeness for external validity and transferability across populations (Polit & Beck, 2016). Furthermore, the psychometric properties of the SET-M were examined as it may affect internal validity. As previously noted, Leighton et al.'s (2015) SET-M has an acceptable internal consistency reliability and retains construct validity. Lastly, the credibility and trustworthiness of qualitative data through semi-structured interviews was maintained (Polit & Beck, 2016).

Due to the highly sensitive nature of the VS module, psychological safety for all participants and the facilitator was prioritized. Participants were encouraged to consult the resources provided and the principal investigator or supervisor throughout the research study including during the prebriefing and simulation session. According to the INACSL standards, facilitators need to be adequately trained in debriefing (INACSL Standards Committee et al., 2021). To meet this standard, the researcher (facilitator) completed an online training session in effective debriefing strategies. Secondly, a mock debriefing session was conducted with a group of five learners from various cultural backgrounds who worked with virtual simulations to highlight any potential issues which may affect the psychological safety of the learner. These learners were volunteers and not eligible or included in the research study. The session was completed outside of the research study time and served as a training opportunity for the facilitators. Based on the results of this mock debrief, it was determined that individual interviews would best support the psychological safety of the learner.

Research Ethics Approval

The thesis research proposal was submitted to the University of Ottawa Health Sciences and Science Research Ethics Board (REB) for review and approval. The thesis research proposal

was approved in October 2021 (see Appendix F for certificate of REB approval). The Health Sciences and Science REB adheres to the Tri-Council Policy Statement 2 (TCPS-2) guidelines for ethical research conduct involving humans. An electronic copy of an informed consent form was provided for students to review and sign prior to enrolment (see Appendix G). The informed consent included any indication of the data being published or presented in research presentations. Students were made aware that participation was voluntary, and they could withdraw from the study at any time with no academic or other consequences. It was noted that while the virtual simulation was a required component of their clinical course, choosing not to participate would not affect their grade or course and there would be no penalty for not participating. If participants were uncomfortable or felt distressed at any time, the University of Ottawa Mental Health and Wellness contact information and other resources were provided for assistance and were listed the consent form. Given the sensitive nature of this research, ethical considerations for mental health supports were included for the principal investigator and supervisor through connecting with the University of Ottawa Equity, Diversity, and Inclusion advisor.

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Chapter Five

Findings

Findings

The findings from this research study were divided into quantitative and qualitative results (see Appendix H and Appendix I, respectively). Quantitative results focus on descriptive and inferential statistical analyses from participant data and the SET-M. Qualitative results showcase three identified themes from the semi-structured interviews.

Quantitative Results

Descriptive Statistics

A total of 38 participants completed the participant information form and were included in the data analysis. The age of participants within this sample ranged from 19 to 26 with an average age of 20.66 years ($SD = 1.55$). The majority of participants (78.9%) identified as a woman, 13.2% identified as being a man, and 7.9% identified as being non-binary. Of the 38 participants, 52.6% identified as White with the next two larger race groups identifying as Black/African/Caribbean of African Descent (13.2%) and East Asian (13.2%). The Black/African/Caribbean of African Descent and East Asian groups along with other groups were merged and included in the total number of participants that identified as non-White which was 18 (47.4%) (see Table 1).

Only a few participants provided a response for the total number of in-person simulations ($n = 13$) and virtual simulations ($n = 21$) they have completed at the time of the study. The data collected for this section depended on what point in the semester participants completed the study simulation. Completing the simulation earlier in the semester meant participants may have had less overall simulation experience when compared to those completing the study scenario later in the semester. The number of in-person simulations completed ranged from 1 to 3 and

averaged 2.15 (SD = 0.69), while the number of virtual simulations completed ranged from 5 to 19 and averaged 13.29 (SD = 3.15)

Table 1

Participant characteristics and simulation experience

Characteristic	Number (%)	Mean (SD)	Range
Age (years) (n = 38)		20.66 (1.547)	19-26
19	3(6.4)		
20	22(46.8)		
21	8(17.0)		
22	1(2.1)		
23	2(4.3)		
26	2(4.3)		
Gender (n = 38)			
Woman	30(78.9)		
Man	5(13.2)		
Non-Binary	3(7.9)		
Race (n = 38)			
White	20(52.6)		
Total non-White (sum of all races excluding White)	18(47.4)		
Simulation Experience (n = 13) (total # in-person)		2.15 (0.689)	1-3
1	2(15.4)		
2	7(53.8)		
3	4(30.8)		
Virtual Simulation Experience (total # virtual) (n = 21)		13.29 (3.149)	5-19
5	1(4.8)		
10	4(19.0)		
11	2(9.5)		
12	1(4.8)		
14	1(4.8)		
15	9(42.9)		
16	2(9.5)		
19	1(4.8)		

Table H1 displays the ranges, means, standard deviations, and Cronbach's Alpha of the SET-M subscales of prebriefing (2 items), scenario which includes learning and confidence (11 items), and debriefing (5 items). Table H2 further showcases the frequencies, percentages, means, and standard deviations of each SET-M subscale statement. The range for all items that represented the total score of the SET-M across 39 responses was 20 to 54, with an average score of 43.23 (SD = 10.62) on a 3-point Likert scale (1 = Do Not Agree; 2 = Somewhat Agree; 3 = Strongly Agree). The average score for prebriefing was 5.44 (SD = 0.91), with over 66.7% of participants strongly agreeing with the prebriefing statements. The scenario subscale average score was 26.00 (SD = 6.73), with over 43.6% strongly agreeing with the statements. Lastly, the debriefing subscale average score was 11.72 (SD = 3.99), with over 48.7% strongly agreeing with the statements. Cronbach's Alpha across the subscales ranged from .78 to .98, with prebriefing at .78, scenario at .93, and debriefing at .98. Across all subscales (18 items), Cronbach's Alpha was .85. Overall, Cronbach's Alpha is acceptable, with good internal consistency and reliability across all subscales and the overall scale. The debriefing subscale's Cronbach's Alpha was $> .95$ which may indicate redundancy in the scale, requiring further analysis.

Inferential Statistics

The Shapiro-Wilk test ($p < .001$) was used as a test of normality as $n < 50$ which informed the use of non-parametric tests for inferential statistical analysis (see Table H3 for tests for normality). The Kruskal-Wallis test statistics for the dependent variable of SET-M scores and independent variable of age and gender were not significant ($p > .05$) across subscales and total score (see Tables H4 and H5). The Mann-Whitney U test statistic for the dependent variable of SET-M scores and independent variable of race was not significant ($p > .05$) across subscales

and total score (see Table H6). Thus, the null hypothesis for each test statistic was accepted that all median or mean ranks are equal indicating no difference between participant characteristics and SET-M scores.

Qualitative Results

A total of two interviews were conducted after the CAN-Sim CHIPS debriefing sessions. Thematic analysis was completed for each interview with three emerging themes. For privacy and confidentiality, pseudonyms were used for each interviewee (see Appendix I, Tables I1 and I2 for the thematic analysis approach).

Theme One: Emotional Competence

The participants had a sense of identification and realization of the emotions that were experienced during the simulation and were able to express these emotions during the debriefing sessions. Participants verbalized they were able to identify the emotion they were feeling and realized the meanings of main and sub-emotions experienced. For example, Alice stated,

It was helpful in putting a label to what you're feeling because in the moment, it can just feel... overwhelming and you don't maybe even realize that you're experiencing a very emotionally charged situation until you debrief... and then you realize that there's so many layers to it and there's more than just I was 'embarrassed' or I was 'this or that' like I was also 'frightened' or I was also 'stressed'

Similar to the “layers” Alice discussed, Laila also liked the idea of main and sub-emotions. Laila stated,

I think it's pretty nice how they come, like you have... a bigger emotion first and then you have a sub-emotion... You don't always identify with every single one of them and I feel like with this... I've understood my emotions better...

and “*maybe you don’t even identify with the main emotion but for the sub-emotion, you really find like ‘oh this is like the word’ so... I just think it helps overall*”. Alice and Laila reported the use of main and sub-emotions as being “*helpful*” and “*nice*” which have led to emotional competence through identifying and realizing emotions in discussion and the use of emotional words or prompts to support their narratives.

Theme Two: Cognitive Change

Alice and Laila narrated the sub-emotions were “*helpful with wording*” and the overall debriefing session “*enables the thinking process of emotions*”. Throughout the debriefing sessions, students had the ability to “*tie emotions to [the] sources in [the] scenario*”. Alice stated,

Overall, it kind of just validates your experience I guess because by taking the time to debrief, you realize that... it’s not OK to go through that... Even though you can’t prevent it or control what happens to you, you can control the way you respond to it and process it, so it’s almost like taking control of what happens to you by reflecting on it. [Tying emotions to the source in the scenario and scoring sub-emotions] was helpful because you could see... the progression of either the escalation or the de-escalation. It helped you kind of tie into what went well and what went wrong at certain points in the scenario so you could think of what the clinical instructor did and how that may have been positive, but then certain other sources of emotions like what the patient was saying... were tied to more negative emotions

Additionally, Laila briefly discussed the cognitive process of relating emotions to the source within the scenario and reported, “*it was definitely helpful because it kind of addresses where your feelings are coming from*”.

Theme Three: Comprehensiveness

In its entirety, the debriefing sessions were deemed as “*very thorough*” rather than “*structured questions about the actual scenario*” and “*personal*” rather than “*more general*”.

Alice reported,

I just really loved how you got to go through every possible emotion that you could have experienced instead of just kind of scratching the surface with previous debriefing.

[Other debriefing] is not really like ‘how did you feel’ ... like being able to explore your emotions ...

and,

I guess it helps you kind of remember everything that happened in a way. I guess it could be a good or a bad thing for people but it helps you remember everything that was said or everything that went well or everything that went badly and then also how you could approach it differently the next time ... Really forced you to kind of recall and relive the experience and relive all the emotions and then in that you could see like what you didn’t like about it and what you could ... have the power to change for next time

Moreover, Alice noted, “*It was helpful because it also helped you kind of see it in a positive way towards the end ...*”. Going back to sub-emotions, Alice added that within the main emotion of ‘happy’, feelings of ‘validation’, ‘acknowledgment’, or ‘optimism’ for future situations were also potentially realized. Alice liked the reminders of available resources during the debrief and summarized that everything was covered “*because not only do you go through what you’ve felt, but then you’re also reminded of what you can do about it*”. Likewise, Laila voiced that the debriefing was “*emotionally therapeutic*” and that “*everything was covered*”; however, there

may be potential to “*add more sub-emotions... if there would be any more*”. Laila reports, “*This [debriefing] is more emotion based and kind of personal... I think it kind of went deeper...*” and

I also like how they added happy because sometimes it is possible to feel like that. Happy is not just ‘inspired’ or ‘hopeful’, it’s also my feelings of ‘validation’ and ‘acknowledgment’ and... it reminds us that there are some things we can take out of the experience even though it feels like mostly negative, we did like learn more about something

Finally, Alice and Laila provided feedback on the CAN-Sim CHIPS debriefing at the end of the SET-M survey. Alice wrote, “*Debriefing after the simulation was a good reflective exercise to identify any emotions I felt and experienced as well to identify the sources of those emotions*”. Laila conveyed,

It was really nice being able to discuss about feelings and thoughts on the VSim and in general, especially since it's a sensitive topic. Being able to voice and receiving prompting on expressing my perspective allowed me to better understand how I felt/feel

Overall, the three main qualitative findings that emerged from the interviews on the CAN-Sim CHIPS debriefing framework were emotional competence, cognitive change, and comprehensiveness. Emotional competence was linked to the identification and realization of emotions experienced. Cognitive change related to the cognitive process of tying emotions to sources within the scenario. Lastly, comprehensiveness summarized the thoroughness of the debriefing sessions and potential for more sub-emotions.

Chapter Six

Discussion

Participant Characteristics

The participant characteristics collected reflects a sample of third-year BScN students with varying ages, genders, and races. Participants' individual experiences with the number of simulations (in-person or virtual) previously completed did not affect their overall perceived effectiveness of completing this virtual simulation; however, participants have mostly interacted with virtual simulations throughout their education. The COVID-19 pandemic may have influenced and contributed to this finding as the use of virtual simulations provided a great opportunity for learning adaptation given the pandemic restrictions enforced within most educational institutions. Thus, in recent years, cohorts that have mostly interacted with virtual simulations may be more or less common. Additionally, participants' ages, genders, and races did not affect their individual perceived effectiveness of the simulation as there were no differences across SET-M scores. As the results were not statistically significant, it could be due to reasons such as a small sample size. There may have been the possibility of participation bias affecting individuals' choice to participate and affecting the way individuals engaged with the simulation and/or responded to the evaluation. It could also indicate that each participant, regardless of their characteristics, learned new concepts that were not previously explored in nursing education and engaged with the simulation similarly.

Simulation Effectiveness Tool-Modified

After reviewing the SET-M subscales and the debriefing subscale items in which Cronbach's Alpha may have indicated redundancy, each item was found to be distinct in their statements either focusing on learning, feelings, clinical judgement, self-reflection, or evaluation. Thus, the redundancy may be reflected in the results where participants may have answered

similarly for each statement possibly since they were at the end of the survey and rushed through their answers.

Simulation Effectiveness Tool-Modified Scores

Leighton et al. (2018) identifies that “there is no established method to score the SET-M”. The need to revise simulations using SET-M scores is based on low scoring items and Leighton et al. (2018) further explains that facilitators are required to revise simulations if over 25% of participants mark an item as low. The single statement in which participants marked low (33.3%) was the scenario statement of “I developed a better understanding of the pathophysiology” (see Table H3). Within this simulation on racism and microaggressions, there was no learning or communication on disease or pathophysiology within prebriefing, scenario, or debriefing content. Accordingly, this statement was irrelevant to the whole simulation experience and could be left out of future evaluations of this type of simulation.

Prebriefing

The INACSL standards of best practice indicate the importance of prebriefing to prepare learners for the educational content provided and to convey important information related to the simulation experience including expectations (INACSL Standards Committee, 2021). Table H3 displays majority of participants in this study strongly agreed that prebriefing using virtual methods increased their confidence and was beneficial to their learning. Student perceptions of prebriefing indicate that structured prebriefing designs are effective in virtual simulation-based experiences based on the SET-M. For comparison, there are currently limited to no published investigations specifically on the use of virtual simulation prebriefing for BScN students. Nevertheless, Kuszajewski et al.’s (2021) evaluation of a virtual simulation in advanced practice nursing education reflected similar perceptions.

Scenario

This virtual simulation experience was designed to adhere to the INACSL Standards of Best Practice Simulation Design and Facilitation Methods (INACSL Standards Committee et al., 2021a; INACSL Standards Committee et al., 2021b). The design of the simulation experience facilitated supporting students in their skills, assessments, critical-thinking, problem-solving, decision-making, and communication as participants individually interacted with the virtual experience in a psychologically safe environment (INACSL Standards Committee et al., 2021b). Altogether, there was a positive response rate for the scenario items, with statements having less than 50% of participants indicate “strongly agree” being statements that related to pathophysiology or illness (see Table H3). The highest scoring statements of “I felt empowered to make clinical decisions”, “I had the opportunity to practice my clinical decision-making skills”, and “I am more confident in communicating with my patient” reflected the virtual simulation’s role in facilitation of providing students with structure and guidance to achieve desired outcomes (INACSL Standards Committee et al., 2021a). Notably, while statements from the use of a statistically reliable and validated tool provided quality evidence on student perceptions of the effectiveness of this simulation, some statements did not reflect the scenario content that focused on racism and microaggression concepts. Some statements were mostly geared to direct clinical care or interventions rather than experiences in the clinical setting which may include racism or microaggressions. The SET-M did not capture simulations based on racism and microaggressions. Data collection and analysis suggests structured and validated tools on evaluating simulation experiences and interventions related to racism and microaggressions would be beneficial.

Debriefing

Planned debriefing was incorporated throughout the simulation-based educational (SBE) activity as recommended by the INACSL standards. The SBE experience included debriefing structures of feedback available at the end of the SET-M, mandatory guided self-reflection process, and/or optional individual debriefing using the CAN-Sim CHIPS framework with a facilitator. The majority of students strongly agreed that debriefing contributed to their learning and that it provided opportunities for self-reflection of performance during the simulation. The only debriefing item that received less than 50% strongly agreeing (48.7%) was that debriefing was valuable in improving clinical judgement. While Leighton et al. (2018) indicated the need to revise simulation contents only if more than 25% of an item was low-scoring, debriefing content may benefit from including more emphasis on reflecting on clinical judgement during racism or microaggression SBE activities.

Simulated Clinical Experience Participant Comments

Leighton et al.'s (2018) SET-M contains an anecdotal section for users to provide comments or feedback about the simulation experience. Table H7 showcases all participant ($n = 12$) comments and feedback. Students provided positive reviews stating, "A great tool when navigating situations similar in clinical", "...an important piece that was missing from nursing education in the past", and "...as a result, [nursing students] can more effectively address the inappropriate behaviour of patients and even colleagues". Following Kolb's ELT (1984), data demonstrated that students have analyzed newly learned concepts of racism and microaggressions and may "effectively address" future experiences in practice and everyday interactions. Within this study, data collection and analysis were only completed until the abstract conceptualization stage of Kolb's ELT (1984) in concluding or learning from the

simulation experience; therefore, showcasing the potential for additional exploration and investigation of the last stage of active experimentation in practice.

Overall, while aligning with INACSL’s standards of best practice, this virtually designed SBE activity incorporating structured prebriefing, design-facilitated scenario, and planned debriefing received positive appraisal from students learning about addressing racism and microaggressions. Students have positively scored the SET-M excluding items that did not relate to the experience. Thus, the hypothesis of the research study is accepted as participants perceived the virtual simulation module as having a positive impact on their learning as measured by the SET-M.

Semi-Structured Interviews on the Cultural Humility and Intersectionality for Psychological Safety Debriefing Framework

This section discusses the contents analysed from the semi-structured interviews using the thematic analysis approach. The three emerging themes from the qualitative interviews include emotional competence, cognitive change, and comprehensiveness.

Emotional Competence

Emotions often occur within certain contexts and tend to become prominent when interacting with other individuals. Within stressful or anxiety-inducing experiences, individuals may automatically deflect to emotion regulation as a coping strategy which is the ability to exert control over qualities of an emotional experience to protect one’s own wellbeing (Denham et al., 2003). As Alice noted, “...*you don’t maybe even realize that you’re experiencing a very emotionally charged situation until you debrief*”. While individuals have learned to self-regulate their emotions in real-time, there may be limited or no chance to identify, realize, and discuss the exact emotions experienced during these events. Thus, potentially leading to no sense of how one

truly felt during the event or adverse effects of suppressing emotions such as physiological stress or behavioural changes (Camodeca & Nava, 2020). Debriefing using a psychologically safe framework focused on emotional processing allowed Laila to “voice” and receive “*prompting on expressing*” her perspective which allowed her “*to better understand*” how she felt. With the use of main and sub-emotions in the framework, Laila stated, “*...I’ve understood my emotions better*”. Overall, emotional competence of self-regulating emotions, identifying and realizing emotions, expressing personal emotions with freedom, and interacting with others using appropriate emotional prompting was a common theme for Alice and Laila (Trentacosta et al., 2006).

Cognitive Change

Without connecting emotions to the source causing the emotion, it is difficult to understand when, how, and why the emotion is occurring. Processing or changing the way one thinks about emotions by identifying the source helped participants appraise the experience. Cognitive change was another common theme among participants as Alice conveyed that one cannot “prevent” or “control” what happens, but one may control the way they “*respond to it and process it... by reflecting on it*”. Through emotional processing, Alice was able to relate the source of positive emotions to positive experiences and negative emotions to negative experiences within the SBE activity. Laila echoed Alice’s statements expressing that it was helpful to address where the “*feelings are coming from*”.

Comprehensiveness

The last identified theme of comprehensiveness focuses on the CHIPS framework debriefing style compared to other debriefing styles, the connection to the whole virtual simulation experience, and the positive ending of the debriefing session which left participants

feeling ‘optimistic’ for future practice. Laila voiced that the addition of more sub-emotions may be beneficial but also felt that “*everything was covered*”.

Laila and Alice’s perceptions regarding debriefing styles was that the CHIPS framework was “*thorough*”, “*personal*”, “*deep*”, went beyond just “*scratching the surface like previous debriefing*”, and provided the ability to “*explore*” emotions. They connected to the whole simulation experience as they were able to “*remember everything that happened*” and could take positive reflections “*out of the experience even though it [felt] mostly negative*”. This demonstrates how the CHIPS framework safeguarded individual psychological safety through enriching emotional processing after distressing scenarios. Shifting reflections to positive outcomes was facilitated as Alice conveyed that “*...you could... have the power to change for next time*”. To conclude, the comprehensive method of the CHIPS debriefing framework also acknowledged the experiential learning cycle’s active experimentation stage as learners could begin to actualize the newly acquired knowledge for future practice.

Implications for Nursing Education, Practice, and Research

The CHIPS debriefing sessions were completed in individual settings with one student and the facilitator to ensure psychological safety and empower students to share their perspectives without fear of chastisement or criticism from others. There was sufficient time for students to engage in an open discussion one-on-one. In these sessions, the facilitator was experienced with the virtual scenario content and concepts, the use of simulation in nursing education, and was trained in debriefing. An expert or experienced facilitator is recommended for debriefing as these qualities play an important role in the discussion of sensitive topics. A facilitator knowledgeable and experienced in the scenario content with the ability to examine and

minimize personal biases is essential to help manage emotions and emotional processing in a safe environment promoting personal growth for students.

One-on-one debriefing was beneficial for safety and time during discussion; however, there was limited ability to share perspectives outside of individual viewpoints and faculty or nurse educators would not have time to complete individual debriefing sessions in large classrooms. A mock debriefing session in a group setting with five individuals was completed prior to the research study to prepare and inform any future use of the framework. Within a group setting, students verbalized positive experiences of sharing perspectives as it enabled insight into different opinions and fostered a sense of belonging from the learning experience.

As there is a risk for bias and controversy when discussing sensitive topics, if proceeding with group debriefing sessions, an expert and experienced facilitator should be required to manage arising conflict from potentially opposing views and to safeguard participants' mental health and wellbeing. Specifically surrounding racism and microaggressions, it is important to consider the composition of debriefing groups as participants may prefer to discuss with other POC to avoid conflict. It may be beneficial for participants to choose who they would like to complete the debriefing sessions with if completed in a group setting. Overall, smaller groups may be more psychologically and emotionally therapeutic and may allow more time for discussion. There is an added value of reiterating expectations of privacy and confidentiality within the context of a small group. Lastly, students from this research study's debriefing sessions liked the discussion surrounding reminders of available resources when reviewing scenario content and addressing certain situations. Available resources catered to student needs are highly recommended and should be discussed throughout the debriefing sessions.

Overall recommendations and implications related to future nursing education include the implementation of management of racism and microaggressions in undergraduate nursing education to support the current healthcare environment. This content should be delivered in various formats that ensure psychological safety for all students. Within nursing practice and research, there should be an increased awareness and research on nurses and nursing students who experience racism and microaggressions in academia, clinical practice, and within the workplace. Suggested future research includes the development of evaluation tools focusing on simulation scenario content such as racism and microaggressions or other sensitive topics as it is highly needed to enhance engagement and evaluation.

Study Limitations

The limitations of the study included small sample size, time constraints, and language barriers. A small sample size was collected as the research study was conducted over a limited amount of time within one semester for one course limiting the generalizability to all undergraduate nursing students. One participant enrolled in the French stream requested French options (see table H7). While most of the simulation experience was available in French including the virtual simulation scenario and debriefing, part of the prebriefing content included articles published only in English and the SET-M was also only available in English. This was a study limitation related to sample size as some students may have not wanted to participate due to the limited French prebriefing content.

Conclusions

The perceived effectiveness of a racism and microaggression virtual simulation module and perceptions of the CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) debriefing framework for undergraduate nursing students' learning was

explored. The virtual simulation module adhered to the International Nursing Association for Clinical Simulation and Learning (INACSL) standards and received positive perceived effectiveness and impact on learning as measured by the Simulation Effectiveness Tool-Modified (SET-M). The CAN-Sim CHIPS debriefing framework received positive perceptions and informed future use of the framework.

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Appendix A

Literature Review Search Strategy

Figure A1. Cumulative Index of Nursing and Allied Health Literature (CINAHL)

Wednesday, May 12, 2021 5:20:19 PM

#	Query	Limiters/Expanders	Last Run Via	Results
S5	S3 AND S4	Limiters - Peer Reviewed; Published Date: 20110101-20211231; English Language Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	307
S4	S1 AND S2	Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	1,348
S3	education or nursing education or nurse education or clinical nursing education or clinical education or clinical learning or clinical simulation or virtual simulation	Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	698,110
S2	patient or healthcare provider or healthcare professional or nurse or nursing or registered nurse or nursing student or student nurse or undergraduate nursing student or undergraduate student nurse	Limiters - Peer Reviewed; Published Date: 20110101-20211231 Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	1,468,940
S1	racism or racial discrimination or racial bias or microaggression	Limiters - Peer Reviewed; Published Date: 20110101-20211231; English Language Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL	5,850

Figure A2. PsycINFO (Ovid)

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▼ Search History (8) View Saved

☐	# ▲ Searches	Results	Type	Actions	Annotations
☐	1 (racism or racial discrimination or racial bias or microaggression).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]	18405	Advanced	Display Results More	☐
☐	2 limit 1 to (english language and yr="2011 - 2021")	9677	Advanced	Display Results More	☐
☐	3 (patient or healthcare provider or healthcare professional or nurse or nursing or registered nurse or nursing student or student nurse or undergraduate nursing student or undergraduate student nurse).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]	340815	Advanced	Display Results More	☐
☐	4 limit 3 to (english language and yr="2011 - 2021")	146441	Advanced	Display Results More	☐
☐	5 (education or nursing education or nurse education or clinical nursing education or clinical education or clinical learning or clinical simulation or virtual simulation).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]	495169	Advanced	Display Results More	☐
☐	6 limit 5 to (english language and yr="2011 - 2021")	206275	Advanced	Display Results More	☐
☐	7 2 and 4	342	Advanced	Display Results More	☐
☐	8 6 and 7	58	Advanced	Display Results More	☐

Save Remove Combine with: AND OR

Save All Edit Create RSS View Saved

Email All Search History Copy Search History Link Copy Search History Details

Advanced Search Basic Search Find Citation Search Tools Search Fields Multi-Field Search

1 Resource selected Hide Change

APA PsycInfo 1806 to May Week 1 2021

Figure A3. PUBMED

[Show Index](#)

Query box

History and Search Details

Search	Actions	Details	Query	Results	Time
#5	...	>	Search: #3 and #4 Filters: Review, in the last 10 years, English	79	13:22:21
#4	...	>	Search: #1 and #2 Filters: Review, in the last 10 years, English	189	13:22:07
#3	...	>	Search: education or nursing education or nurse education or clinical nursing education or clinical education or clinical learning or clinical simulation or virtual simulation Filters: Review, in the last 10 years, English	85,635	13:21:51
#2	...	>	Search: patient or healthcare provider or healthcare professional or nurse or nursing or registered nurse or nursing student or student nurse or undergraduate nursing student or undergraduate student nurse Filters: Review, in the last 10 years, English	402,975	13:21:40
#1	...	>	Search: racism or racial discrimination or racial bias or microaggression Filters: Review, in the last 10 years, English	473	13:21:27

Showing 1 to 5 of 5 entries

Figure A4. Medline (Ovid)

Ovid: Search Form
 ovidsp-dc2-ovid-com.proxy.bib.uottawa.ca/ovid-a/ovidweb.cgi

[Search](#)
[Journals](#)
[Books](#)
[My Workspace](#)
[Visible Body](#)
[EBP Tools](#)
[Multimedia](#)
[What's New](#)

Search History (8)

#	Searches	Results	Type	Actions	Annotations
1	(racism or racial discrimination or racial bias or microaggression).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	7966	Advanced	Display Results More	Contract
2	limit 1 to (english language and yr=2011 - 2021)	5933	Advanced	Display Results More	
3	(patient or healthcare provider or healthcare professional or nurse or nursing or registered nurse or nursing student or student nurse or undergraduate nursing student or undergraduate student nurse).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	3374432	Advanced	Display Results More	
4	limit 3 to (english language and yr=2011 - 2021)	1404661	Advanced	Display Results More	
5	(education or nursing education or nurse education or clinical nursing education or clinical education or clinical learning or clinical simulation or virtual simulation).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	946649	Advanced	Display Results More	
6	limit 5 to (english language and yr=2011 - 2021)	361303	Advanced	Display Results More	
7	2 and 4	849	Advanced	Display Results More	
8	6 and 7	203	Advanced	Display Results More	

Combine with:

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[Advanced Search](#) | [Basic Search](#) | [Find Citation](#) | [Search Tools](#) | [Search Fields](#) | [Multi-Field Search](#)

1 Resource selected | [Hide](#) | [Change](#)

Ovid MEDLINE(R) ALL 1946 to May 11, 2021

Figure A5. Scopus

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Search Sources Lists    [Create account](#) [Sign in](#)

9 document results

(TITLE-ABS-KEY (racism OR racial AND discrimination OR racial AND bias OR microaggression)) AND ((patient OR healthcare AND provider OR healthcare AND professional OR nurse OR nursing OR registered AND nurse OR nursing AND student OR student AND nurse OR undergraduate AND nursing AND student OR undergraduate AND student AND nurse)) AND (education OR nursing AND education OR nurse AND education OR clinical AND nursing AND education OR clinical AND education OR clinical AND learning OR clinical AND simulation OR virtual AND simulation)

 Edit  Save  Set alert

Search tips

Show results for: (TITLE-ABS-KEY (racism OR racial AND discrimination OR racial AND bias OR microaggression)) AND ((patient OR healthcare AND provider OR healthcare AND professional OR nurse OR nursing OR registered AND nurse OR nursing AND student OR student AND nurse OR undergraduate AND nursing AND student OR undergraduate AND student AND nurse)) AND (education OR nursing AND education OR nurse AND education OR clinical AND nursing AND education OR clinical AND education OR clinical AND learning OR clinical AND simulation OR virtual AND simulation)

Search within results... 

Documents Secondary documents Patents [View Mendeley Data \(4398\)](#)

 Analyze search results [Show all abstracts](#) Sort on: [Date \(newest\)](#)

Figure A6. Embase (Ovid)

Ovid: Search Form

ovidsp-dc2-ovid-com.proxy.bib.uottawa.ca/ovid-a/ovidweb.cgi

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▼ Search History (8) [View Saved](#)

#	Searches	Results	Type	Actions	Annotations
1	(racism or racial discrimination or racial bias or microaggression).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]	11249	Advanced	Display Results More	
2	limit 1 to (english language and yr=2011 - 2021*)	8121	Advanced	Display Results More	
3	(patient or healthcare provider or healthcare professional or nurse or nursing or registered nurse or nursing student or student nurse or undergraduate nursing student or undergraduate student nurse).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]	7149852	Advanced	Display Results More	
4	limit 3 to (english language and yr=2011 - 2021*)	3868600	Advanced	Display Results More	
5	(education or nursing education or nurse education or clinical nursing education or clinical education or clinical learning or clinical simulation or virtual simulation).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]	1301351	Advanced	Display Results More	
6	limit 5 to (english language and yr=2011 - 2021*)	565266	Advanced	Display Results More	
7	2 and 4	1542	Advanced	Display Results More	
8	6 and 7	360	Advanced	Display Results More	

[Save](#) [Remove](#) Combine with: [AND](#) [OR](#)

[Save All](#) [Edit](#) [Create RSS](#) [View Saved](#) [Email All Search History](#) [Copy Search History Link](#) [Copy Search History Details](#)

Advanced Search | [Basic Search](#) | [Find Citation](#) | [Search Tools](#) | [Search Fields](#) | [Multi-Field Search](#)

1 Resource selected | [Hide](#) | [Change](#)

 Embase Classic+Embase 1947 to 2021 May 11

Figure A7. Education Source



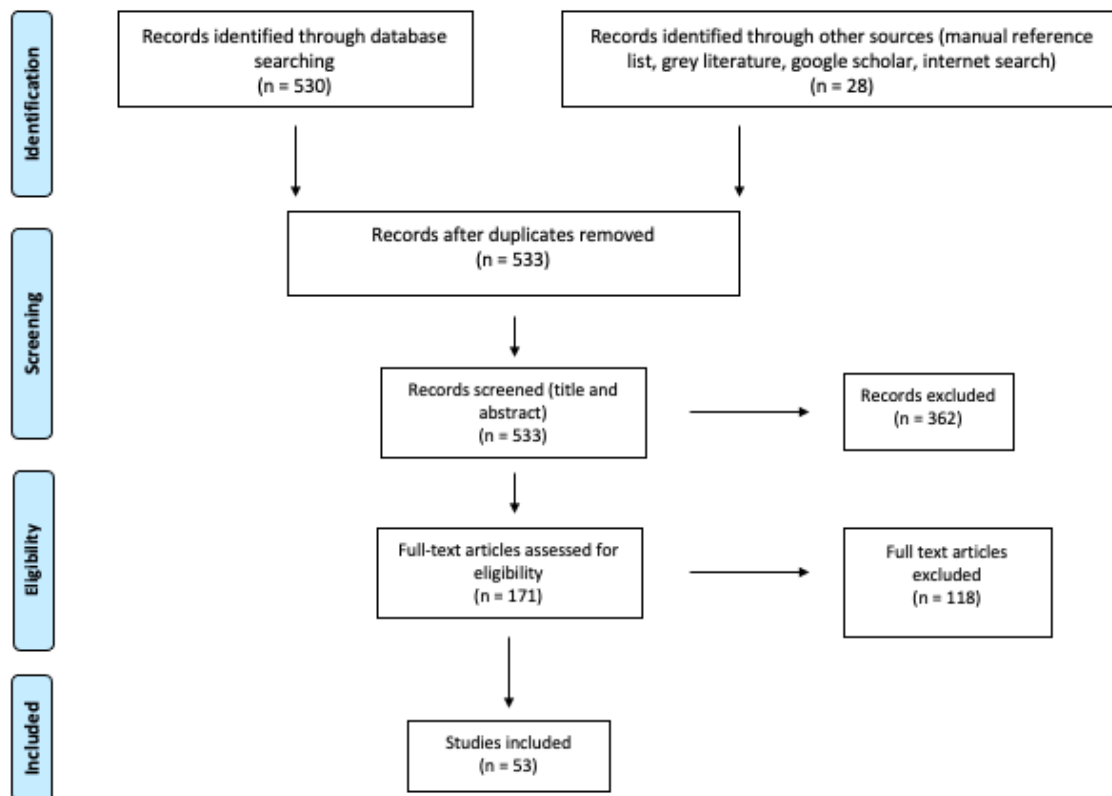
Wednesday, May 12, 2021 5:54:19 PM

#	Query	Limiters/Expanders	Last Run Via	Results
S5	S3 AND S4	Limiters - Peer Reviewed; Published Date: 20110101-20211231 Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - Education Source	136
S4	S1 AND S2	Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - Education Source	275
S3	education or nursing education or nurse education or clinical nursing education or clinical education or clinical learning or clinical simulation or virtual simulation	Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - Education Source	2,709,032
S2	patient or healthcare provider or healthcare professional or nurse or nursing or registered nurse or nursing student or student nurse or undergraduate nursing student or undergraduate student nurse	Limiters - Peer Reviewed; Published Date: 20110101-20211231 Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - Education Source	74,538
S1	racism or racial discrimination or racial bias or microaggression	Limiters - Peer Reviewed; Published Date: 20110101-20211231 Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - Education Source	7,578

Table A1. Literature review inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
- All online journals/source types - Peer-reviewed articles - Primary research articles, quantitative or qualitative research studies, systematic reviews - Published between 2011-2022 - English language - Literature focusing on racism and microaggressions in healthcare and nursing - Literature focusing on undergraduate nursing education, clinical simulation, and virtual simulation related to clinical learning	- Hard copy resources - Publications outside of search criteria (i.e., not between 2011-2022) - Non-English language literature

Figure A8. PRISMA diagram



Appendix B

Recruitment Script/Letter of Information and Recruitment Poster

Hello, my name is Hayan Yusuf and I am a 2nd year Master of Science in Nursing student at the University of Ottawa School of Nursing. I am currently working on my thesis research project with my thesis supervisor, Dr. Jane Tyerman. I am studying the perceived effectiveness of a racism and microaggression virtual simulation game and debriefing framework. The virtual simulation game includes an approach that supports undergraduate nursing students in navigating racism and/or microaggressions they may experience in their clinical settings. The debriefing framework centres around emotionally sensitive topics in a psychologically safe environment. The debriefing framework differs from the typical post-simulation debriefing as it focuses on emotional processing and psychological safety and does not focus on skills-based self-reflective questions. The research will lead to a better understanding of the perceived effectiveness of both the virtual simulation game and debriefing framework for undergraduate nursing students' learning. Additionally, this study will provide an important intervention that combats racism and microaggressions while safeguarding one's health, well-being, and professionalism and supports the advancement of nursing practice and education.

If you volunteer as a participant in this study, you will be asked to share your post-simulation evaluation tool (SET-M) results with the primary researcher (Hayan Yusuf), choose to participate in a 10- to 30-minute post-simulation debriefing session with the primary researcher (Hayan Yusuf) using a debriefing framework (this is optional), and choose to participate in a 15- to 30-minute semi-structured interview exploring the experience and perceived effectiveness of the debriefing framework (this is optional). Only 5-10 participants will be chosen to participate in the semi-structured interview on a first-come first-serve basis.

Please note that the virtual simulation game is a required component of your 3rd year medical-surgical clinical course (NSG3305 or NSG3705). However, choosing not to participate in this study will **not** affect your grade or course in any way. There is **no** penalty for not participating. If you choose to participate, you will be entered into a draw for 1 of 4 \$25 gift cards. Additionally, the 5-10 participants chosen to participate in the semi-structured interview on a first-come first-serve basis will each be provided with a \$10 gift card in appreciation of their participation.

This study is under the supervision of my thesis supervisor, Dr. Jane Tyerman, and has been reviewed by a thesis committee. This study has received ethics approval from the University of Ottawa Health Sciences and Science Research Ethics Board. The final decision about participation is yours and please note that your data will remain anonymous. You may withdraw from the study at any time.

If you would like more information about the study or if you are interested in participating, please contact the primary researcher (Hayan Yusuf).

Bonjour, je m'appelle Hayan Yusuf et je suis étudiante en deuxième année de maîtrise en sciences infirmières à l'École des sciences infirmières de l'Université d'Ottawa. Je travaille actuellement sur mon projet de recherche pour ma thèse avec ma directrice de thèse, Dr. Jane Tyerman. J'étudie l'efficacité perçue d'un jeu de simulation virtuelle de racisme et de micro-agression et d'un cadre de débriefage. Le jeu de simulation virtuelle comprend une approche qui aide aux étudiants en soins infirmiers de premier cycle à faire face au racisme et/ou aux micro-agressions dont ils peuvent être victimes dans leur environnement clinique. Le cadre de débriefage est centré sur des sujets émotionnellement sensibles dans un environnement psychologiquement sain. Le cadre de débriefage diffère du débriefage post-simulation typique car il se concentre sur le traitement émotionnel et la sécurité psychologique et ne se concentre pas sur des questions d'autoréflexion basées sur les compétences. La recherche permettra de mieux comprendre l'efficacité perçue du jeu de simulation virtuelle et du cadre de débriefage pour l'apprentissage des étudiants en soins infirmiers de premier cycle. De plus, cette étude fournira une intervention importante pour lutter contre le racisme et les micro-agressions tout en préservant la santé, le bien-être et le professionnalisme de chacun et en soutenant l'avancement de la pratique et de l'enseignement des soins infirmiers.

Si vous vous portez volontaire pour participer à cette étude, il vous sera demandé de partager les résultats de votre outil d'évaluation post-simulation (SET-M) avec le chercheur principal (Hayan Yusuf), de choisir de participer à une session de débriefage post-simulation de 10 à 30 minutes avec le chercheur principal (Hayan Yusuf) en utilisant un cadre de débriefage (ceci est facultatif) ainsi que de choisir de participer à une entrevue semi-structurée de 15 à 30 minutes explorant l'expérience et l'efficacité perçue du cadre de débriefage (ceci est facultatif). Seuls 5 à 10 participants seront choisis pour participer à l'entretien semi-structuré sur la base du premier arrivé, premier servi.

Veuillez noter que le jeu de simulation virtuelle est un élément obligatoire du cours clinique médico-chirurgical de 3^e année (NSG3305 ou NSG3705). Cependant, le fait de ne pas participer à cette étude n'affectera en rien votre note ou votre cours. Il n'y a pas de pénalité pour ne pas participer. Si vous choisissez de participer, vous serez inscrit au tirage au sort d'une des quatre cartes-cadeaux valant 25\$. De plus, les 5 à 10 participants choisis pour participer à l'entretien semi-structuré selon le principe du premier arrivé, premier servi, recevront chacun une carte-cadeau valant 10\$ en remerciement de leur participation.

Cette étude est sous la supervision de ma directrice de thèse, Dr. Jane Tyerman, et a été examinée par un comité de thèse. Cette étude a reçu l'approbation éthique du Comité d'éthique de la recherche en sciences de la santé et en sciences de l'Université d'Ottawa. La décision finale concernant votre participation reste toujours la vôtre et noter également que toutes vos données resteront anonymes. Vous pouvez vous retirer de l'étude à tout moment.

Si vous souhaitez obtenir de plus amples informations sur l'étude où si vous souhaitez à y participer, veuillez contacter le chercheur principal (Hayan Yusuf).

Undergraduate Nursing Students Needed for Research!

Are you a 3rd year University of Ottawa Bachelor of Science in Nursing student enrolled in the English or French stream medical-surgical clinical course? If so, you may be interested in this study about racism and microaggressions.



We are looking for eligible students to participate in a study that involves exploring the perceived effectiveness of a racism and microaggression virtual simulation game and debriefing framework.

Why are we doing this study?

- To investigate the perceived effectiveness of a virtual simulation game aimed at supporting nursing students in navigating racism and/or microaggressions in the clinical setting
- To investigate the perceived effectiveness of a post-simulation debriefing framework in an emotionally sensitive and psychologically safe environment

Eligibility criteria:

- University of Ottawa BScN student
- Enrolled in the Fall 2021 semester and taking the medical-surgical clinical course NSG3305/NSG3705
- Have prior simulation laboratory learning and clinical practice experience
- Able to speak, read, and write English or French

If you participate:

- You will be entered into a draw for 1 of 4 \$25 gift cards for sharing your SET-M results!

Your participation would involve:

- Sharing your post-simulation evaluation tool (SET-M) results of a racism and microaggressions virtual simulation game completed in your NSG3305 or NSG3705 course
- Choosing to participate in a 10- to 30-minute post-simulation debriefing session with the primary researcher using a debriefing framework (OPTIONAL)
- Choosing to participate in a 15- to 30-minute semi-structured interview exploring the experience and perceived effectiveness of the debriefing framework (OPTIONAL – up to 10 participants will be chosen on a first-come, first-serve basis and each will receive a \$10 gift card)

For more information about the study or to participate:

Please contact the primary researcher,

Hayan Yusuf RN, BScN

University of Ottawa, Faculty of Health Sciences, School of Nursing

This study is under the supervision of Dr. Jane Tyerman and ethics approval has been received from the University of Ottawa Health Sciences and Science Research Ethics Board.



Étudiants en soins infirmiers de premier cycle requis pour la recherche!

Êtes-vous un étudiant de 3e année du baccalauréat en sciences infirmières de l'Université d'Ottawa inscrit au cours clinique médico-chirurgical en anglais ou en français ? Si oui, cette étude sur le racisme et les micro-aggressions pourrait vous intéresser.



Nous recherchons des étudiants éligibles pour participer à une étude qui consiste à explorer l'efficacité perçue d'un jeu de simulation virtuelle de racisme et de micro-aggression et d'un cadre de débriefage.

Pourquoi faisons-nous cette étude?

- Examiner l'efficacité perçue d'un jeu de simulation virtuel visant à aider les étudiants en soins infirmiers à faire face au racisme et/ou aux micro-aggressions en milieu clinique.
- Examiner l'efficacité perçue d'un cadre de débriefage post-simulation dans un environnement émotionnellement sensible et psychologiquement sain.

Critères d'éligibilité:

- Étudiant au baccalauréat en sciences infirmières de l'Université d'Ottawa
- Inscrit au semestre d'automne 2021 et suivant le cours clinique médico-chirurgical NSG3305/NSG3705
- Avoir déjà acquis de l'expérience en laboratoire de simulation et en pratique clinique
- Capable de parler, de lire et d'écrire l'anglais ou le français

Si vous participez:

- Vous serez inscrit au tirage au sort d'une des 4 cartes-cadeaux de 25 \$ pour avoir partagé vos résultats SET-M!

Votre participation impliquerait:

- Partager les résultats de l'outil d'évaluation post-simulation (SET-M) d'un jeu de simulation virtuelle sur le racisme et les micro-aggressions réalisés dans le cadre de votre cours NSG3305 ou NSG3705.
- Choisir de participer à une séance de débriefage post-simulation de 10 à 30 minutes avec le chercheur principal en utilisant un cadre de débriefage (OPTIONNEL).
- Choisir de participer à un entretien semi-structuré de 15 à 30 minutes pour explorer l'expérience et l'efficacité perçue du cadre de débriefage (OPTIONNEL - jusqu'à 10 participants seront choisis sur la base du premier arrivé, premier servi et chacun recevra une carte-cadeau de 10 \$).

Pour plus d'informations sur l'étude ou pour participer:

Veillez contacter le chercheur principal,

Hayan Yusuf RN, BScN

Université d'Ottawa, Faculté des sciences de la santé, École des sciences infirmières

Cette étude est supervisée par Dr. Jane Tyerman et a reçu l'approbation éthique du Comité d'éthique de la recherche en sciences de la santé et en sciences de l'Université d'Ottawa.

Appendix C

Sociodemographic/Participant Information Form

Participant ID#:

Date/Time:

Age:

Gender:

- ☐ Female
- ☐ Male
- ☐ Non-binary
- ☐ Trans man
- ☐ Trans woman
- ☐ Other
- ☐ Not listed, please specify: _____
- ☐ Prefer not to say

Race category or Ethnicity – list all that apply

- ☐ Black/African/Caribbean of African Descent
- ☐ Caribbean of Non-African Descent
- ☐ East Asian
- ☐ South Asian
- ☐ Southeast Asian
- ☐ Indigenous – First Nations, Metis, Inuit
- ☐ Latinx
- ☐ Middle Eastern
- ☐ White
- ☐ Do not know
- ☐ Not listed, please specify: _____
- ☐ Prefer not to say

Current Year of Study:

Clinical Experience (list classes):

Simulation Experience (type of simulation: in-person vs. virtual, how many simulations):

Numéro d'identification du participant:

Date/Heure:

Âge:

Sexe:

- ☐ Femme
- ☐ Homme
- ☐ Non-binaire
- ☐ Homme trans
- ☐ Femme trans
- ☐ Autre
- ☐ Non répertorié, veuillez préciser : _____
- ☐ Préfère ne pas le dire

Catégorie raciale ou ethnique - indiquez tout ce qui s'applique

- ☐ Noir/Africain/Caribéen d'origine Africaine
- ☐ Caribéen pas d'origine Africaine
- ☐ Asiatique de l'Est
- ☐ Asiatique du Sud
- ☐ Asiatique du Sud-Est
- ☐ Indigène – Premières nations, Métis, Inuits
- ☐ Latinx
- ☐ Moyen Orient
- ☐ Blanc
- ☐ Ne sait pas
- ☐ Non répertorié, veuillez préciser : _____
- ☐ Préfère ne pas dire

Année d'étude actuelle:

Expérience clinique (liste des cours):

Expérience de simulation (type de simulation: en personne ou virtuelle, combien de simulations):

Appendix D

Simulation Effectiveness Tool – Modified

1

Simulation Effectiveness Tool - Modified (SET-M)

After completing a simulated clinical experience, please respond to the following statements by circling your response.

PREBRIEFING:	Strongly Agree	Somewhat Agree	Do Not Agree
Prebriefing increased my confidence	3	2	1
Prebriefing was beneficial to my learning.	3	2	1
SCENARIO:			
I am better prepared to respond to changes in my patient's condition.	3	2	1
I developed a better understanding of the pathophysiology.	3	2	1
I am more confident of my nursing assessment skills.	3	2	1
I felt empowered to make clinical decisions.	3	2	1
I developed a better understanding of medications. (Leave blank if no medications in scenario)	3	2	1
I had the opportunity to practice my clinical decision making skills.	3	2	1
I am more confident in my ability to prioritize care and interventions	3	2	1
I am more confident in communicating with my patient.	3	2	1
I am more confident in my ability to teach patients about their illness and interventions.	3	2	1
I am more confident in my ability to report information to health care team.	3	2	1
I am more confident in providing interventions that foster patient safety.	3	2	1
I am more confident in using evidence-based practice to provide nursing care.	3	2	1
DEBRIEFING:			
Debriefing contributed to my learning.	3	2	1
Debriefing allowed me to verbalize my feelings before focusing on the scenario	3	2	1
Debriefing was valuable in helping me improve my clinical judgment.	3	2	1
Debriefing provided opportunities to self-reflect on my performance during simulation.	3	2	1
Debriefing was a constructive evaluation of the simulation.	3	2	1
What else would you like to say about today's simulated clinical experience?			

Leighton, K., Ravert, P., Mudra, V., & Macintosh, C. (2015). Update the Simulation Effectiveness Tool: Item modifications and reevaluation of psychometric properties. *Nursing Education Perspectives*, 36(5), 317-323. Doi: 10.5480/1 5-1671.

Appendix E

Semi-Structured Interview Guide

The CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) Debriefing Framework: Debriefing Sensitive Topics is a new tool that has been developed. I would like to take a moment to ask you to share your experiences.

1. What would you like to share about your experience using this framework as a debriefing guide?
2. How did you feel about this method of debriefing compared to your previous debriefing experiences?
 - a. What do you think was different about this debriefing guide?
3. Do you think this way of debriefing was helpful? If so, was it a useful method in describing an emotionally sensitive experience?
4. What did you like about the debriefing framework?
5. What did you dislike about the debriefing framework?
6. During the debriefing sessions, did we cover everything that you felt was important? If not, what was missing and why?

Le cadre de Debriefing CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) : Debriefing Sensitive Topics est un nouvel outil qui a été développé. J'aimerais prendre un moment pour vous demander de partager vos expériences.

1. Qu'aimeriez-vous partager à propos de votre expérience en utilisant ce cadre comme guide de débriefage?
2. Que pensez-vous de cette méthode de débriefage par rapport à vos précédentes expériences de débriefage?
 - a. Qu'est-ce qui, selon vous, était différent dans ce guide de débriefage?
3. Pensez-vous que cette méthode de débriefage a été utile ? Si oui, était-ce une méthode utile pour décrire une expérience émotionnellement sensible?
4. Qu'avez-vous apprécié dans le cadre du débriefage?
5. Qu'est-ce qui vous a déplu dans le cadre du débriefage?
6. Pendant les sessions de débriefage, avons-nous couvert tout ce qui vous semblait important ? Si non, qu'est-ce qui a manqué et pourquoi?

Appendix F

Certificate of Research Ethics Board Approval

06/10/2021

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number

H-09-21-7347

Titre du projet / Project Title

Exploring the perceived effectiveness of a racism and microaggression virtual simulation game and debriefing for undergraduate nursing students learning.

Type de projet / Project Type

Thèse de maîtrise / Master's thesis

Statut du projet / Project Status

Approuvé / Approved

Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)

06/10/2021

Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)

05/10/2022

Équipe de recherche / Research Team

Chercheur / Researcher Affiliation

Role

Hayan Amina YUSUF

École des sciences infirmières / School of Nursing

Chercheur Principal / Principal Investigator

Jane TYERMAN

École des sciences infirmières / School of Nursing

Superviseur / Supervisor

Conditions spéciales ou commentaires / Special conditions or comments

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06/10/2021

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

Le Comité d'éthique de la recherche (CÉR) de l'Université d'Ottawa, opérant conformément à l'*Énoncé de politique des Trois conseils* (2014) et toutes autres lois et tous règlements applicables, a examiné et approuvé la demande d'éthique du projet de recherche ci-nommé.

L'approbation est valide pour la durée indiquée plus haut et est sujette aux conditions énumérées dans la section intitulée "Conditions Spéciales ou Commentaires". Le formulaire « Renouvellement ou Fermeture de Projet » doit être complété quatre semaines avant la date d'échéance indiquée ci-haut afin de demander un renouvellement de cette approbation éthique ou afin de fermer le dossier.

Toutes modifications apportées au projet doivent être approuvées par le CÉR avant leur mise en place, sauf si le participant doit être retiré en raison d'un danger immédiat ou s'il s'agit d'un changement ayant trait à des éléments administratifs ou logistiques du projet. Les chercheurs doivent aviser le CÉR dans les plus brefs délais de tout changement pouvant augmenter le niveau de risque aux participants ou pouvant affecter considérablement le déroulement du projet, rapporter tout événement imprévu ou indésirable et soumettre toute nouvelle information pouvant nuire à la conduite du projet ou à la sécurité des participants.

The University of Ottawa Research Ethics Board, which operates in accordance with the *Tri-Council Policy Statement* (2014) and other applicable laws and regulations, has examined and approved the ethics application for the above-named research project.

Ethics approval is valid for the period indicated above and is subject to the conditions listed in the section entitled "Special Conditions or Comments". The "Renewal/Project Closure" form must be completed four weeks before the above-referenced expiry date to request a renewal of this ethics approval or closure of the file.

Any changes made to the project must be approved by the REB before being implemented, except when necessary to remove participants from immediate endangerment or when the modification(s) only pertain to administrative or logistical components of the project. Investigators must also promptly alert the REB of any changes that increase the risk to participant(s), any changes that considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project or the safety of the participant(s).

Riana MARCOTTE

Responsable d'éthique en recherche / Protocol Officer

Pour/For **Daniel LAGAREC** Président(e) du/Chair of the Comité d'éthique de la recherche en sciences de la santé et sciences / Health Sciences and Sciences Research Ethics Board

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Appendix G

Consent Form



Title of the study: Exploring the perceived effectiveness of a racism and microaggression virtual simulation module and debriefing framework for undergraduate nursing students

Investigators

Hayan Yusuf, RN, BScN, Graduate Student (Principal Investigator)
School of Nursing, Faculty of Health Sciences, University of Ottawa
451 Smyth Rd., Ottawa, ON K1H 8M5

Dr. Jane Tyerman, RN, PhD, CCSNE, Assistant Professor (Supervisor)
School of Nursing, Faculty of Health Sciences, University of Ottawa
451 Smyth Rd., Ottawa, ON K1H 8M5

Invitation to Participate:

You are invited to participate in the abovementioned research study conducted by Hayan Yusuf and Dr. Jane Tyerman. This study is being conducted for academic purposes to fulfill the requirements of the Master of Science in Nursing program. This is a Master's Thesis project that is under the supervision of Professor Dr. Jane Tyerman and may be published.

Purpose of the Study:

The purpose of the study is to investigate the perceived effectiveness of a virtual simulation game/module (pre-simulation preparation, virtual experience, debriefing) to guide nursing students in addressing incidents of racism and/or microaggression experienced in the clinical setting. The secondary purpose/aim is to explore the experience and perceived effectiveness of the CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) Debriefing Framework: Debriefing Sensitive Topics.

Participation:

Participation will consist of:

1. Sharing your Simulation Effectiveness Tool-Modified (SET-M) results of the racism and microaggression virtual simulation game with the principal investigator (Hayan Yusuf)

2. Choosing to participate in a 10- to 30-minute post-simulation debrief session with the principal investigator using the CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) Debriefing Framework: Debriefing Sensitive Topics
3. Choosing to participate in a video-recorded 15- to 30- minute semi-structured interview on Zoom after the debriefing session to explore the experience and perceived effectiveness of the CHIPS debriefing framework

*Please note: The racism and microaggression virtual simulation game is a required component of your NSG3305/NSG3705 course. However, choosing to not participate in the study will **not** affect your grade or course in any way. There is **no** penalty for not participating.

Risks:

Participation in this study will entail voluntarily providing personal information in a sociodemographic form, discussing feelings or emotions regarding racism/discrimination/microaggressions, and engaging in debriefing regarding sensitive topics. This may cause or reinforce feelings related to high-intensity emotions such as anxiety or stress related to experiences with racism/discrimination/microaggressions.

Assurance from the researchers will be given that every effort will be made to minimize these risks such as having the options and right to withdraw from the study at any time, refuse to answer any questions without fear of reprisal or ill treatment, and be provided with contact information for supportive on-campus resources such as the University of Ottawa Health and Wellness program.

Benefits:

Some benefits of participation in the study include gaining or expanding knowledge on terms and concepts related to racism and/or microaggressions. Additionally, an increase in critical thinking and decision-making skills when experiencing an incident of racism or microaggression in the clinical setting as the virtual simulation game includes an intervention to respond to racism/microaggressions. Knowledge will be gained on how to navigate experiences of racism/discrimination/microaggressions while safeguarding my health and wellbeing and maintaining my professionalism.

Moreover, participation will support the advancement of nursing education, nursing practice, clinical simulation, and virtual simulation games. Participation will provide necessary feedback on an important intervention that combats racism/discrimination/microaggressions in the clinical setting for nursing students enabling effective future recommendations.

Confidentiality and Privacy:

I have received assurance from the researchers that the information I will share will remain strictly confidential. I understand that the contents will be used only to collect data on the sociodemographic form, Simulation Effectiveness Tool-Modified (SET-M) results, debriefing session, and interview outcomes to determine the perceived effectiveness of the virtual simulation game and experiences with the CAN-Sim CHIPS Debriefing Framework. My identity will remain anonymous. My data will only be accessible with a unique participant I.D. number. No published material will contain personal information or personal identifiers.

Some parts of the study will require the use of online services. To minimize the risk of security breaches and to help ensure my confidentiality, it is recommended that I use standard safety measures, such as signing out of my account, closing my browser, and locking my device when I am no longer using it/when I have completed the study.

Conservation of Data:

Consent forms, participant information, sociodemographic form, SET-M results, video-recorded debriefing/interviews, and/or transcripts will be kept in a secure manner. All data will be secured in an encrypted password file on a password-protected computer only accessible by the principal investigator (Hayan Yusuf) and the thesis supervisor (Dr. Jane Tyerman). All data will be kept for a 5-year period needed to complete the study and publish the results.

Compensation:

To thank you for your contribution to the research project, you will be given the option to enter your name in a draw to win 1 of 4 Tim Horton gift cards each valued at \$25. Each participant who chooses to participate in the semi-structured interviews (first-come first-serve until a total of 5-10 participants have signed up) will be provided with one \$10 gift card.

All research participants who sign the consent form will be entered in the draw, regardless of whether they decide to withdraw from further participating in the research project. The prize must be accepted as awarded or forfeited and cannot be redeemed for cash.

The name you provide when you enter the draw is collected for the purposes of contacting you if your name is selected in the draw. Your name and the contact information you have provided will be kept confidential and then destroyed once the prizes have been awarded.

We reserve the right to cancel the draw or cancel the awarding of the prize if the integrity of the draw or the research or the confidentiality of participants is compromised. The draw is governed by the applicable laws of Canada.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. There will be no repercussions related to my standing in the course, in the School of Nursing, or with the University of Ottawa should I choose not to participate, withdraw, and/or refuse to answer any questions. Course instructors will not know who has agreed to participate in this study. While I may withdraw at any time, all data gathered until the time of withdrawal may not be removed or may still be used in the study as given the anonymous nature of the study, the researchers may be unable to retrace individual datasets.

If I have any questions about the study, I may contact the researcher (Hayan Yusuf) or their supervisor (Dr. Jane Tyerman). If I have any questions regarding the ethical conduct of this study, I may contact the Office of Research Ethics and Integrity via email (ethics@uottawa.ca) or telephone (613-562-5387).

It is recommended that I keep/print/save a copy of this consent form for my records.

Acceptance: By selecting one of the following consent statements below, I have read and understood the consent form and agree to participate in this research study as outlined.

- ☐ Yes, I agree to participate in this study and will share my sociodemographic data and SET-M results only.

Participant Name: _____ *Email/Telephone number:* _____

Date: _____

- ☐ Yes, I agree to participate in this study and will share my sociodemographic data and SET-M results and participate in the semi-structured interview.

Participant Name: _____ *Email/Telephone number:* _____

Date: _____

- ☐ No, I do not wish to participate in this study.



Titre de l'étude: Exploration de l'efficacité perçue d'un module de simulation virtuelle de racisme et de microagression et d'un cadre de débriefage pour les étudiants en soins infirmiers de premier cycle.

Investigateurs

Hayan Yusuf, RN, BScN, étudiant diplômé (chercheur principal)
École des sciences infirmières, Faculté des sciences de la santé, Université d'Ottawa
451, chemin Smyth, Ottawa, ON K1H 8M5

Dr. Jane Tyerman, RN, PhD, CCSNE, professeure adjointe (superviseure)
École des sciences infirmières, Faculté des sciences de la santé, Université d'Ottawa
451, chemin Smyth, Ottawa, ON K1H 8M5

Invitation à participer:

Vous êtes invité à participer à l'étude de recherche susmentionnée menée par Hayan Yusuf et Dr Jane Tyerman. Cette étude est menée à des fins académiques pour répondre aux exigences du programme de maîtrise en sciences infirmières. Il s'agit d'un projet de thèse de maîtrise qui est sous la supervision du professeur Dr. Jane Tyerman et qui pourra être publié.

Objectif de l'étude:

Le but de l'étude est d'examiner l'efficacité perçue d'un jeu/module de simulation virtuelle (préparation à la simulation, expérience virtuelle, débriefage) pour guider les étudiants en soins infirmiers dans la gestion des incidents de racisme et/ou de micro-agression vécus en milieu clinique. L'objectif secondaire est d'explorer l'expérience et l'efficacité perçue du cadre de débriefage CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) : Débriefage de sujets sensibles.

Participation:

La participation consistera à:

1. Partager avec l'investigateur principal (Hayan Yusuf) les résultats du jeu de simulation virtuelle de racisme et de microagression obtenus avec le Simulation Effectiveness Tool-Modified (SET-M).
2. Choisir de participer à une séance de débriefage post-simulation de 10 à 30 minutes, enregistrée par audio et/ou vidéo, avec le chercheur principal en utilisant le cadre de

débriefage CAN-Sim Cultural Humility and Intersectionality for Psychological Safety (CHIPS) : Debriefing Sensitive Topics

3. Choisir de participer à une entrevue semi-structurée de 15 à 30 minutes enregistrée par audio et/ou vidéo sur Zoom après la session de débriefage pour explorer l'expérience et l'efficacité perçue du cadre de débriefage CHIPS.

*Veuillez noter que le jeu de simulation virtuelle sur le racisme et les microagressions est un élément obligatoire de votre cours NSG3305/NSG3705. Cependant, le fait de choisir de ne pas participer à l'étude **n'affectera en rien** votre note ou votre cours. Il **n'y a pas** de pénalité pour ne pas participer.

Risques:

La participation à cette étude implique de fournir volontairement des informations personnelles dans un formulaire sociodémographique, de discuter de sentiments ou d'émotions concernant le racisme, la discrimination et les microagressions, et de participer à un débriefage sur des sujets sensibles. Cela peut provoquer ou renforcer des sentiments liés à des émotions de forte intensité, comme l'anxiété ou le stress liés à des expériences de racisme/discrimination/microagressions. Les chercheurs donneront l'assurance que tout sera mis en œuvre pour minimiser ces risques, comme le fait d'avoir la possibilité et le droit de se retirer de l'étude à tout moment, de refuser de répondre à toute question sans crainte de représailles ou de mauvais traitements, et de recevoir les coordonnées de ressources de soutien sur le campus, comme le programme de santé et de bien-être de l'Université d'Ottawa.

Ressources à l'Université

Santé et bien-être de l'Université d'Ottawa

Site Web : <https://www2.uottawa.ca/campus-life/health-wellness>

Courriel : healthpromo@uottawa.ca

Numéro de téléphone général : 613-562-5700

Numéro de téléphone d'urgence sur le campus : 613-562-5411 (pour des préoccupations immédiates en matière de sécurité - les services de protection peuvent vous localiser rapidement en cas d'urgence 24/7).

Salon du bien-être : Centre universitaire Jock Turcot, salle 203

Ouvert du lundi au vendredi de 12 h à 17 h, fermé le samedi et le dimanche.

Aide immédiate disponible en Ontario

Good2talk, la ligne d'aide aux étudiants du postsecondaire (bilingue, 24/7)

Site Web : <https://good2talk.ca>

Numéro de téléphone : 1-866-925-5454

SMS : Textez GOOD2TALKON ou ALLOJECOUTEON au 686868.

Centre de détresse d'Ottawa (bilingue, 24/7)

Site Web : <https://www.dcottawa.on.ca/24-7-distress-line/>

Numéro de téléphone (région d'Ottawa) : 613-238-3311

Numéro de téléphone (région de Gatineau) : 1-866-676-1080

Avantages:

Parmi les avantages de la participation à l'étude, mentionnons l'acquisition ou l'approfondissement de connaissances sur les termes et les concepts liés au racisme et/ou aux microagressions. De plus, une augmentation de la pensée critique et des compétences en matière de prise de décision lors d'un incident de racisme ou de microagression dans le milieu clinique, puisque le jeu de simulation virtuel comprend une intervention pour répondre au racisme/microagressions. J'acquerrai des connaissances sur la manière de gérer les expériences de racisme, de discrimination et de microagression tout en préservant ma santé et mon bien-être et en maintenant mon professionnalisme.

En outre, la participation contribuera à l'avancement de la formation en soins infirmiers, de la pratique infirmière, de la simulation clinique et des jeux de simulation virtuelle. La participation fournira le retour d'information nécessaire sur une intervention importante qui combat le racisme, la discrimination et les microagressions en milieu clinique pour les étudiants en soins infirmiers, ce qui permettra de formuler des recommandations efficaces pour l'avenir.

Confidentialité et vie privée:

J'ai reçu l'assurance des chercheurs que les informations que je vais partager resteront strictement confidentielles. Je comprends que le contenu ne sera utilisé que pour recueillir des données sur le formulaire sociodémographique, les résultats du Simulation Effectiveness Tool-Modified (SET-M), séance de débriefage, et les résultats des entrevues afin de déterminer l'efficacité perçue du jeu de simulation virtuel et des expériences avec le cadre de débriefage CAN-Sim CHIPS. Mon identité restera anonyme. Mes données ne seront accessibles qu'avec un numéro d'identification unique du participant. Aucun matériel publié ne contiendra d'informations personnelles ou d'identifiants personnels.

Certaines parties de l'étude nécessiteront l'utilisation de services en ligne. Afin de minimiser le risque de failles de sécurité et de garantir la confidentialité de mes données, il m'est recommandé d'utiliser les mesures de sécurité standard, telles que la déconnexion de mon compte, la fermeture de mon navigateur et le verrouillage de mon appareil lorsque je ne l'utilise plus/quand j'ai terminé l'étude.

Conservation des données:

Les formulaires de consentement, les informations sur les participants, le formulaire sociodémographique, les résultats SET-M, les séances de débriefages/entrevues enregistrés sur vidéo et/ou les transcriptions seront conservés de manière sécurisée. Toutes les données seront sécurisées dans un fichier crypté par mot de passe sur un ordinateur protégé par mot de passe uniquement accessible par le chercheur principal (Hayan Yusuf) et le directeur de thèse (Dr. Jane Tyerman). Toutes les données seront conservées pendant une période de 5 ans nécessaire à la réalisation de l'étude et à la publication des résultats.

Rémunération:

Pour vous remercier de votre contribution au projet de recherche, vous aurez la possibilité d'inscrire votre nom dans un tirage pour gagner 1 des 4 cartes-cadeaux Tim Horton d'une valeur de 25 \$ chacune. Chaque participant qui choisit de participer aux entrevues semi-structurées (premier arrivé, premier servi jusqu'à ce qu'un total de 5 à 10 participants se soient inscrits) recevra une carte-cadeau de 10 \$.

Tous les participants à la recherche qui signent le formulaire de consentement seront inscrits au tirage au sort, qu'ils décident ou non de ne plus participer au projet de recherche. Le prix doit être accepté tel quel ou perdu et ne peut être échangé contre de l'argent.

Le nom que vous fournissez lorsque vous participez au tirage au sort est recueilli dans le but de vous contacter si votre nom est sélectionné dans le tirage au sort. Votre nom et les informations de contact que vous avez fournies resteront confidentiels et seront détruits une fois les prix attribués.

Nous nous réservons le droit d'annuler le tirage au sort ou d'annuler l'attribution du prix si l'intégrité du tirage au sort ou de la recherche ou la confidentialité des participants est compromise. Le tirage est régi par les lois applicables du Canada.

Participation volontaire: Je n'ai aucune obligation de participer et si je choisis de participer, je peux me retirer de l'étude à tout moment et/ou refuser de répondre à toute question, sans subir de conséquences négatives. J'ai la possibilité d'éteindre la vidéo pendant les sessions enregistrées à tout moment et/ou de demander que la session cesse d'être enregistrée en audio et/ou en vidéo. Il n'y aura aucune répercussion sur mon statut dans le cours, à l'École des sciences infirmières ou à l'Université d'Ottawa si je décide de ne pas participer, de me retirer ou de refuser de répondre aux questions. Les instructeurs du cours ne sauront pas qui a accepté de participer à cette étude. Bien que je puisse me retirer à tout moment, toutes les données recueillies jusqu'au moment du retrait ne seront pas supprimées ou pourront encore être utilisées dans le cadre de l'étude, car étant donné la nature anonyme de l'étude, les chercheurs pourraient être incapables de retracer les ensembles de données individuels. Les données recueillies lors de la session de débriefage enregistrée en audio et/ou vidéo ne peuvent être retirées en raison de la nature interdépendante des données de groupe.

Si j'ai des questions sur l'étude, je peux contacter le chercheur (Hayan Yusuf) ou son superviseur (Dr. Jane Tyerman). Si j'ai des questions concernant la conduite éthique de cette étude, je peux contacter le Bureau de l'éthique et de l'intégrité de la recherche par courriel (ethics@uottawa.ca) ou par téléphone (613-562-5387).

Il m'est recommandé de conserver/imprimer/sauvegarder une copie de ce formulaire de consentement pour mes dossiers.

Acceptation: En sélectionnant l'une des déclarations de consentement ci-dessous, j'ai lu et compris le formulaire de consentement et j'accepte de participer à cette étude de recherche telle que décrite.

- ☐ Oui, j'accepte de participer à cette étude et de partager mes données sociodémographiques et mes résultats SET-M uniquement.

Nom du participant : _____

Email/Numéro de téléphone : _____

Date : _____

- ☐ Oui, j'accepte de participer à cette étude et de partager mes données sociodémographiques et mes résultats SET-M et de participer à l'entrevue semi-structuré.

Nom du participant : _____

Email/Numéro de téléphone : _____

Date : _____

- ☐ Non, je ne souhaite pas participer à cette étude.

Appendix H

Simulation Effectiveness Tool-Modified Results

Table H1. Simulation Effectiveness Tool Modified (SET-M) subscales and Cronbach's Alpha

SET-M Subscales	Range	Mean (SD)	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
Prebriefing (2 items)	3-6	5.44 (0.912)	.776	.780
Scenario (11 items)	12-33	26.00 (6.732)	.927	.931
Debriefing (5 items)	0-15	11.72 (3.993)	.979	.979
Overall (18 items)	20-54	43.23 (10.624)	.689	.851

Note: One item from scenario in the learning statements was omitted.

Original SET-M Cronbach's Alpha:

Prebriefing (2 items) = .833

Learning (6 items) = .852

Confidence (6 items) = .913

Debriefing (6 items) = .908

Overall (19 items) = .93

Table H2. Simulation Effectiveness Tool-Modified (SET-M) subscale statement results (n = 39)

SET-M Subscales and Statements	Strongly Agree (%)	Somewhat Agree (%)	Do Not Agree (%)	No Response	Mean (SD)
Prebriefing (2 items)					
Prebriefing increased my confidence.	26 (66.7)	12 (30.8)	1 (2.6)		2.64 (.537)
Prebriefing was beneficial to my learning.	32 (82.1)	6 (15.4)	1 (2.6)		2.79 (.469)
Scenario (11 items)					
I am better prepared to respond to changes in my patient's condition.	23 (59.0)	12 (30.8)	4 (10.3)		2.49 (.683)
I developed a better understanding of the pathophysiology.	17 (43.6)	7 (17.9)	13 (33.3)	2 (5.1)	2.00 (1.00)
I am more confident in my nursing assessment skills.	22 (56.4)	12 (30.8)	5 (12.8)		2.44 (.718)
I felt empowered to make clinical decisions.	26 (66.7)	10 (25.6)	3 (7.7)		2.59 (.637)
I had the opportunity to practice my clinical decision-making skills.	24 (61.5)	9 (23.1)	5 (12.8)	1 (2.6)	2.44 (.821)
I am more confident in my ability to prioritize care and interventions.	21 (53.8)	12 (30.8)	6 (15.4)		2.38 (.747)
I am more confident in my ability to teach patients (family) about their illness and interventions.	18 (46.2)	13 (33.3)	6 (15.4)	2 (5.1)	2.21 (.894)
I am more confident in communicating with my patient.	25 (64.1)	11 (28.2)	3 (7.7)		2.56 (.641)
I am more confident in my ability to report information to the health care team.	21 (53.8)	11 (28.2)	5 (12.8)	2 (5.1)	2.31 (.893)
I am more confident in providing interventions that foster patient safety.	21 (53.8)	10 (25.6)	7 (17.9)	1 (2.6)	2.31 (.863)
I am more confident in using evidence-based practice to provide nursing care.	20 (51.3)	13 (33.3)	6 (15.4)		2.36 (.743)

Debriefing (5 items)					
Debriefing contributed to my learning.	24 (61.5)	9 (23.1)	5 (12.8)	1 (2.6)	2.44 (.821)
Debriefing allowed me to communicate my feelings before focusing on the scenario.	21 (53.8)	10 (25.6)	7 (17.9)	1 (2.6)	2.31 (.863)
Debriefing was valuable in helping me improve clinical judgment.	19 (48.7)	13 (33.3)	6 (15.4)	1 (2.6)	2.28 (.826)
Debriefing provided opportunities to self-reflect on my performance during simulation.	22 (56.4)	11 (28.2)	5 (12.8)	1 (2.6)	2.38 (.815)
Debriefing was a constructive evaluation of the simulation.	20 (51.3)	12 (30.8)	6 (15.4)	1 (2.6)	2.31 (.832)

Table H3. Shapiro-Wilk tests of normality

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Prebriefin g	.399	39	<.001	.663	39	<.001
Scenario	.173	39	.005	.872	39	<.001
Debriefing	.256	39	<.001	.796	39	<.001
Total_SET M	.180	39	.003	.875	39	<.001

a. Lilliefors Significance Correction

Table H4. Kruskal-Wallis test for age

	Test Statistics ^{a,b}			
	Prebriefin g	Scenario	Debriefin g	Total_SET M
Kruskal-Wallis H	8.911	5.293	5.279	5.933
df	5	5	5	5
Asymp. Sig.	.113	.381	.383	.313

a. Kruskal Wallis Test

b. Grouping Variable: Age

Table H5. Kruskal-Wallis test for gender

	Test Statistics ^{a,b}			
	Prebriefin g	Scenario	Debriefin g	Total_SET M
Kruskal-Wallis H	.566	.842	1.521	1.229
df	2	2	2	2
Asymp. Sig.	.754	.656	.468	.541

a. Kruskal Wallis Test

b. Grouping Variable: Gender

Table H6. Mann-Whitney U test for race

	Test Statistics ^a			
	Prebriefin g	Scenario	Debriefin g	Total_SET M
Mann-Whitney U	101.000	107.500	102.000	106.500
Wilcoxon W	254.000	260.500	255.000	259.500
Z	-1.222	-.765	-1.013	-.803
Asymp. Sig. (2-tailed)	.222	.444	.311	.422
Exact Sig. [2*(1-tailed Sig.)]	.331 ^b	.455 ^b	.350 ^b	.433 ^b

a. Grouping Variable: RaceRecoded

b. Not corrected for ties.

Table H7. Participant comments from Simulation Effectiveness Tool-Modified (n = 12)

Comment #	What else would you like to say about today's simulated clinical experience?
1	Appreciated opportunity to learn new techniques and how to approach situations like these.
2	A great tool when navigating situations similar in clinical. Thank you!
3	It was instructive about what to do if I encounter a situation like Yasmin's
4	I really enjoyed this virtual simulation and was pleasantly surprised to see this added to our med-surg clinical content. I have experienced similar microaggressions at clinical with patients asking me where I am "actually" from, so I found that I related to Yasmin in that way. POST-DEBRIEF: This simulated experience empowered me with the confidence to navigate situations like the one Yasmin experienced. Using the 6-step approach was helpful and can be applied to many clinical situations. Debriefing after the simulation was a good reflective exercise to identify any emotions I felt and experienced as well to identify the sources of those emotions.
5	C'était beaucoup instructif.
6	Very well done and such an important piece that was missing from nursing education in the past
7	I now understand the meaning of Racial microaggressions and the 6 step approach.
8	I am glad that every nursing student gets to do this simulation, though it is upsetting for many. This is a step towards addressing the racism and microaggressions in healthcare that can be so subtle that not many would notice. I feel like with the readings and simulation, nursing students will become more aware and conscious of their words, and as a result can more effectively address the inappropriate behaviour of patients and even colleagues. Thank you! POST-DEBRIEF: It was really nice being able to discuss about feelings and thoughts on the vsim and in general, especially since it's a sensitive topic. Being able to voice and receiving prompting on expressing my perspective allowed me to better understand how I felt/feel.
9	Good
10	Good, its the first time I learn about those 6 steps
11	I really liked this simulation it helped me understand what is the appropriate response in case of a similar situation.
12	RAS mais avoir optiont langue svp

Appendix I

Thematic Analysis of Interviews

Table I1. Thematic analysis of Alice's interview

Interview Questions	Interview extract	Condensed Meaning Unit	Codes	Themes
What would you like to share about your experience using this framework as a debriefing guide?	00:41:13 Uhm, I think it was helpful in like, uh, I guess putting a label to what you're feeling because. In the moment it can just feel like. I guess overwhelming and you don't Maybe don't even realize like that. You're experiencing a very like emotionally charged situation. Until you like debrief like we just did, and then you realize that there's so many layers to it and there's more than just. I was embarrassed, or I was. This or that, like I was also. Frightened, or I was also stressed, uhm, and then I also liked the	Putting a label to what you're feeling In the moment, it can feel overwhelming and you don't even realize that you're experiencing a very emotionally charged situation until you debrief Realize there's so many layers to it and it's more than just 'embarrassed', it's also 'frightened' or 'stressed' Positive ending to it with the happy emotion and sub-emotions help you realize that you might have felt	Labels what you're feeling Don't realize emotionally charged situation until debrief So many more layers to main emotion Positive ending with happy emotion Realizing happy is expressed though many sub-emotions	Emotional competence Comprehensiveness Cognitive change

	the positive ending to it. The all the happy and emotion. Then there's the subemotions Uhm, because then it helps you realize that. You might have felt validated or acknowledged or optimistic for. Like future situations. And so. Yeah, and then overall it kind of just validates your experience, I guess because by taking the time to to debrief. You you realize that, like? Uhm, I guess it's not OK to go through that and then, even though you can't like prevent it or control like what happens to you. You can control like the way you. Uhm, respond to it and like process it. So it's almost like like. Taking control of like what happens to you? By reflecting on it.	‘validated’ or ‘acknowledged’ or ‘optimistic’ for future situations Taking the time to debrief, you realize that it’s not OK to go through that even though you can’t prevent or control what happens to you You can control the way you respond and process it Taking control of what happens to you by reflecting on it	Realizing it’s not OK to go through that You can control the way you respond and process Take control through reflection	
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How did you feel about this method of debriefing compared to your previous debriefing experiences? a. What do you think was different about this debriefing guide?	00:43:22 Uhm, I think this one is very like thorough. And uhm Yeah, I just really loved you to go through like every possible emotion that you could have experienced instead of just kind of scratching the surface with previous like debriefing. 00:44:12 Oh yes, yes. But. I don't know is that really like the same? 'cause that's more like. Very like structured questions about. Like the actual scenario. I don't know if that makes sense. 00:44:41 Unless, like the how you felt or. Or how did that go? And like what? What	Very thorough Loved to go through every possible emotion you could've experienced instead of scratching the surface with previous debriefing [Other debriefing] is very like structured questions about the actual scenario [Other debriefing] is not really like "how do you feel" Being able to explore your emotions [is what's different about this debriefing guide]	Thorough vs. structured Explore emotions	Comprehensiveness

	went well and what went wrong? But not really like how did you feel like even when we do like reflective notes? For clinical, like it's what went well. What went wrong like? What did others do well? What did you do well? But not really like how. How did you feel there? 00:45:27 Like being. Able to explore your emotions.			
Do you think this way of debriefing was helpful? If so, was it a useful method in describing an emotionally sensitive experience?	00:45:44 Uhm, yes, I think. It was helpful. Uhm, like I said it. It helps you kind of put a label to what you're feeling. And kind of like. Categorize your feelings as. Like you were saying, the more intense emotions	Helpful as it put a label to what you're feeling Categorize your feelings More intense emotions that you didn't even realize you felt	Labels/categorizes your feelings Realize emotions you didn't know you felt	Emotional competence Comprehensiveness Cognitive change

	that. Maybe you didn't even realize that you're. You felt. That way, but then when you debrief, you're. Like no, I actually felt very angry for. Very like disgusted by the comment or. Uhm, whatever it may be. And then again, it was helpful because it. Also helped you kind of see it in a positive way towards the end. 00:46:49 Yeah, I think that was helpful. Because you could see how like the, I guess the progression of like either the escalation or the deescalation. And it helped you kind of tie into like what what went well and what went wrong at certain points in the scenario. So you could think of like. What the clinical instructor did and how that may have been	When you debrief, you're like no, I actually felt very angry or disgusted by the comment Helpful because it helped you see it in a positive way towards the end [framework ends with happy sources] [Tying emotion to source in scenario & scoring sub-emotions] was helpful because you could see the progression of the escalation or de-escalation and helped you tie into what went well or what went wrong at certain points You could think what the clinical instructor did and how that may have been positive	Debrief enables thinking process of emotions Helpful with positive ending Helpful to tie emotions to sources in scenario Identifies where negative vs. positive emotions came from	
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	positive, but then certain other sources of emotions like what the the patient was saying and how those were tide to more negative emotions.	But certain other sources of emotions like what the patient was saying were tied to more negative emotions		
4. What did you like about the debriefing framework? 5. What did you dislike about the debriefing framework?	00:47:34 OK. I guess kind of just the same things. Like very thorough and. I liked two that I guess it helps you, kind of Remember everything that happened in a way. Like I mean, I guess I could be a good thing or a bad thing for some people, but. It helps you remember every. Everything that was said or everything that went that went well or everything that went badly and. Then also how you could? Approach it differently next time. And so, like if the student were to. Like address, turn	Helps you remember everything that happened, could be a good or bad thing for some people If you were to debrief, you would know next time to take a different approach next time Forced you to recall and relive the experience and relive all the emotions and you could see what you didn't like about it and what you could have the power to change for next time	Helps you remember whole simulation/scenario [could be good or bad] Debrief helps you identify future approaches	Comprehensiveness

	comments and then kind of if it escalated even more and then if you were to debrief. Then you would know next time to maybe take a different approach and refocus the conversation or clarify your role as a nursing. Student, so I like that it helped you. Really it forced you to kind of recall and relive the experience and relive all emotions and then in that sense you could see like. What you didn't? Like about it and what you could. What you have like the power to change for next time.			
During the debriefing sessions, did we cover everything that you felt was important? If not, what was missing and why?	00:49:54 Participant 12 I have to think. I think it was all. Covered like you gave. Like options for, I'm going back to what I liked. But you can't like. Uh, like	It was all covered Like the reminders of resources that are available to you	Reminders of resources available [liked] Liked discussion	Comprehensiveness

	reminders of like resources that are available to you. So I I think it was all covered because like not only do you go through like what you've felt, but then you're also like reminded of. What you can do about it? So I don't. I don't think there was much. 00:51:31 Participant 12 Uhm, I like the talking. I guess like. The one the one we did. On like right space. Maybe it's like in there there was. More like resources or. What you could do? Or like uhm? Yeah, like for example the like when you mentioned the zero tolerance policy like. Maybe like did like a question like did you know that? That this like is in place in most institutions or something	Not only do you go through what you've felt, you're also reminded of what you can do about it Liked the talking [with facilitator]		
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	like along those lines, like just questions that would kind of like point you towards like solutions.			
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Table I2. Thematic analysis of Laila's interview

Interview Questions	Interview extract	Condensed Meaning Unit	Codes	Themes
What would you like to share about your experience using this framework as a debriefing guide?	00:49:34 Uhm, I think it's pretty nice how they come like you have like a like a bigger emotion 1st and then you would like have like subemotion. Then you can kind of pick from there. 'cause like you don't always identify with like. Like a every single one of them, and I feel like with this some like I've understood like my emotions better. In a way. And like maybe? Like if you like if I liked I like all these sub emotions together. I can kind of see like. Uhm, like where. All this is like tying into. I guess yeah.	Like how you have a bigger 1st emotion and then sub-emotions You don't always identify with every single one of them Understood my emotions better I can see where all of this is tying into Helpful in identifying where these feelings come from	Main emotion and sub-emotions Don't have to identify with all sub-emotions Understand emotions Helps identify sources of emotions	Emotional competence Cognitive change

	00:50:20 'cause I like come also like I'm not really that great with words, so having this is kind of a like really helpful like to identify like where these feelings are coming from.			
How did you feel about this method of debriefing compared to your previous debriefing experiences? a. What do you think was different about this debriefing guide?	00:51:14 Uh, I feel like, uh. Well, I guess not. It hasn't really happened in lab, but uhm. Like a. This one is like more like emotion based and like kind of personal. I find so uhm I think it kind of like went deeper. Uhm like I think Oh my clinical instructor she. Did pretty well like come. With her debriefing session? Uhm, it's just that that one was like more general. And uhm. Like this one was like, just like emotions really. So it was kind of like a. More like a.	This one is more emotion-based and kind of personal It went deeper [Other debriefing] is more general This is more emotionally therapeutic	Personal Deep vs. general Emotionally therapeutic	Comprehensiveness

	Emotionally, like therapeutic I guess. I hope that's the right word.			
Do you think this way of debriefing was helpful? If so, was it a useful method in describing an emotionally sensitive experience?	00:52:40 Uhm, yeah it was definitely, uhm, helpful. 'cause like he kindly addresses where your feelings are coming from and. Uhm, like a like maybe you don't even like identify with like the main emotion but like for the subemotion like you really like find like oh this is like the word so it's just like it's like. It really helps, uhm? Uhm, I just think it like helps overall.	Helpful as it addresses where your feelings are coming from Maybe you don't identify with the main emotion but the sub-emotion helps with the wording and helps overall	Helpful with addressing sources of emotions Identify with sub-emotion more than main emotion Sub-emotions helps with wording	Cognitive change
4. What did you like about the debriefing framework? 5. What did you dislike about the debriefing framework?	00:53:40 Oh, I think it was. Pretty nice overall. Maybe they could add more like sub emotions. I don't know if there would be any more,	Overall, it was nice Like how happy was added because it's not just inspired or hopeful, it's also validation or acknowledgement	Happy relates to validation or acknowledgement	Comprehensiveness

	but. Overall, I think it was pretty nice. I also like how they added uhm like happy like because some it is possible to like. Feel like, not like, uh, happy is not just like a Like inspired or hopeful like it's also, uh, my feelings of like. Like uh, validation and acknowledgement and. Yeah, uhm, I feel like, uh, I just like remind us that like there are some things we can like take out of the experience. Even though like even it feels like mostly negative. Uhm, we did like learn more about something I guess.	Reminds us that there are some things that we take from an experience even though it feels mostly negative We learn more about something	Take some things from experience even though it feels mostly negative [Debrief] helps you learn more Potential to add more sub-emotions	
During the debriefing sessions, did we cover everything that you felt was important? If not, what was missing and why?	00:55:15 I think everything was covered, Yeah, I can't really think of anything. To add to this.	Everything was covered	Everything was covered	Comprehensiveness