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Professional Nurse Attitudes of Poverty Before and After Participation in a Poverty Simulation

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Walden University
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Abstract

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by

Beth Mueller

MSN, Nebraska Wesleyan University, 2014

BSN, Midland University, 2010

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing Education

Walden University

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Abstract

Implicit bias in healthcare toward those living in poverty may contribute to inequalities in care and increase the likelihood of patient noncompliance. The purpose of this study was to determine if participation in a poverty simulation had an impact on the attitudes of professional nurses toward those in poverty. Mezirow's transformational theory was used to guide the study by allowing the learner to examine meaning and revise perspective after participation in an online module. This module included an online poverty simulation created by The United Way of Connecticut titled *Making Tough Choices* as well as a pre- and post-simulation survey of attitudes toward poverty measured using the Attitudes Toward Poverty (ATP) Short Form. This quantitative, quasi-experimental study used a convenience sampling of 35 registered nurses employed by a large, metropolitan health system recruited via an email invitation to all registered nurses in the health system. Data were analyzed using a paired *t*-test to determine if there were changes in attitudes toward poverty after participation in the simulation. Results revealed a significant difference in attitudes toward those in poverty after simulation participation. Positive social change can occur when nurses explore and recognize their bias and attitudes and have an opportunity for behavior modification. Recommendations for future research include identifying similar nursing populations and population bases to provide more generalizable data and identification of other approaches that provide an experience for participants to "step into the shoes" of those in poverty. A study that measured the attitudes after a longer period of participation in the simulation would also provide further data regarding long-term change of attitudes.

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Dedication

I would like to dedicate this dissertation to so many people who helped me get to this point in my nursing education journey. First of all, to my wonderful daughters and grandchildren. You are my life and I adore you. You inspire me to be a better person every single day. Appreciation to my sweet brother who listened to me and let me vent when I wasn't sure I had done the right thing when I returned to school. My sincere gratitude to my parents, who readily volunteered to help when I was a single mom and needed help with caring for my daughter so that I could take my dream job in nursing education. Thanks as well to my loving extended family of aunts, uncles, and cousins who shared in each step of this process and provided cheers of support and encouragement.

I must give credit and thanks to two of my closest friends. Mary Pat, you encouraged me to take that step into teaching and were my partner through many of the educational milestones. When I feel overwhelmed by a task in front of me, I hear your voice reminding me that "it's just a hoop" and jump through it. Last, but definitely not least, my best friend Kelly. Our almost daily chats over the last 5 years are truly one of the main reasons I have reached this point. Your gentle prodding, listening ear, talking me of the ledge when I wanted to give up, and your unwavering, non-judgmental support are all part of what enabled me to continue moving forward.

Thank you all!

Acknowledgments

I want to express my great appreciation to my wonderful committee chair, Dr. Janice Long. Your support and encouragement have been so kind and sincere, and I would not have reached this point without you. After many courses under many nurse educators, I have built a library of characteristics that I want to implement in my teaching as well as those that I want to avoid. You are my role model and I hope to inspire and support my students just as you have inspired and supported me.

Dr. Kathleen Brewer, I was so fortunate to meet you at my first residency and your words have stuck with me throughout this journey. You gave me great advice on narrowing my focus when I wanted to combine way too many aspects in my study. Your reassurance that this would not be my "life's work" but rather a step in my research experience allowed me to embrace my subject and plan for future opportunities. In addition, you shared data regarding how few nurses go on to complete their terminal degrees and I knew I wanted to be part of this select group.

Thank you both!

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Chapter 1: Introduction to the Study

Introduction

Health disparities in the United States consist of preventable differences in a patient's health status, morbidity, and mortality (Braveman, 2014). These differences increase when coupled with characteristics that include race, ethnicity, lower socioeconomic standing, and gender (Braveman, 2014; Braveman et al., 2011; Healthy People.gov, 2019). Disparities may exist as economic and/or social, with lack of significant resources or opportunities for marginalized groups, as well as the impact of differences in healthcare treatment between social classes (Braveman, 2014). Furthermore, environmental disparities are perpetuated by those living in clustered areas of poverty that are compounded by social disadvantages (Healthy People.gov, 2019).

Research shows that these disparities influence where patients seek care and resources and impact whether the patients return for follow up care (Haider et al., 2011; Parkinson, 2009). However, risk factors that impact disparities may exist at the caregiver level as well (Haider et al., 2015a). Health equity refers to a responsibility to lower or remove identified disparities, but equity remains a struggle when the law requires a low minimum wage that contributes to poverty levels (Braveman, 2014). A comprehensive call for change includes not only medical care but living and working conditions that support essential rights allowing all people to have an equal right to be healthy (Braveman, 2014).

Implicit bias of health care staff, including doctors, nurses, educators, and medical and nursing students, toward those living in poverty includes stereotyping and prejudice

and may contribute to increased inequalities in healthcare (FitzGerald & Hurst, 2017; Harrison & Falco, 2005; Zrinyi & Balogh, 2004). This implicit bias may influence the provision of care given to a disparate group. When faced with implicit bias from those providing care, the likelihood of patient noncompliance with follow up is increased (Parkinson, 2009).

With the acknowledgement of the existence of implicit bias among healthcare professionals, including doctors, nurses, and students, the methods to impact change in bias need to be explored (FitzGerald & Hurst, 2017; Haider et al., 2011). A method to identify and provide bias-free feedback is needed (Zestcott et al., 2016). While research demonstrates the need for translating learning into practice, it is not clear which strategies work best to impact and reduce implicit bias (Zestcott et al., 2016). The goal of impacting social change starts with reducing implicit bias in an effort to increase equality in patient care.

Chapter 1 is an introduction of the problem and significance of implicit bias and the impact on those biased groups. Key terms are acknowledged and defined to provide specific terminology associated with this issue. A discussion of experiential learning and transformational learning will examine the impact of focused education on implicit bias. The potential assumptions and limitations were identified as well as the scope and delimitations for this study. A detailed discussion will provide insight into the implications for social change and the impact on nursing.

Background

Poverty can be classified as low socioeconomic status (SES) that includes both economic and sociological implications (Miner et al., 2014). For the purpose of this study, the use of the term "poverty" will refer to those individuals that can be classified as those with low SES with both economic and sociological impact. In addition, the terms "*perceptions*", "*bias*", and "*attitudes*" may be used interchangeably to identify those thoughts related to persons living in poverty.

Implicit bias of poverty is identified in health care professionals as the attitudes toward those patients living in poverty (Haider et al. 2011, 2015a, 2015b; Zestcott et al., 2016). This bias has been found in a wide range of professions. A study of physicians and internists found that there were significant differences in treatment preferences according to SES (Barnhart, 2006). For example, lower SES patients were less likely to receive recommendation for intrauterine contraception and were judged to be less knowledgeable by their providers (Dehlendorf, 2010). In another study of psychiatrists, a notable relationship between low SES and estimates of patient demeanor was found (Kales et al., 2005). In another, individuals perceived as upper class were found to receive more preference in a study of medical students (Haider et al, 2011). In a review of student nurse attitudes, a study found that differences exist in attitudes and some students would refuse to care for homeless patients in given instances (Zrinyi & Balogh, 2004). Focus groups with undergraduate social work students identified pre-existing opinions regarding those in poverty while admitting to little exposure to poverty (Blair et al, 2014). In a survey of registered nurses, nurses were likely to agree with statements

that stigmatized poverty although those nurses with the most years of experience had fewer negative beliefs (Wittenauer et al, 2015). In a 2018 implicit association test with pediatric physicians and nurses, 71% of participants found implicit bias in their survey results (Sukhera et al., 2018a). Taken together, these studies show the salience of perceived social class and provision of care in healthcare settings.

The bias of those in health care toward people in poverty may deter those living in poverty from seeking access to care to avoid feeling stigmatized (Arpey et al., 2017). Persons in poverty recognize stigmatization and may internalize the negative attitude (Kooken et al., 2014). This internalization may result in patients in poverty perceiving their health care as being of lower quality than others receive (Arpey et al., 2017; Boylston & O'Rourke, 2013). Subsequently, refusal or delay in seeking care results in increased illnesses that could be prevented or controlled with appropriate care (Parkinson, 2009). For this reason, understanding the social determinants of health and their effect on access to care for those in poverty is needed (Jarrell et al., 2014).

A firm connection exists between those in poverty and poor physical and mental health which may result in those who live in poverty seeking care in healthcare settings, so that nurses are positioned to provide care for people who live in poverty (Parkinson, 2009). The implicit bias of nurses toward those in poverty may influence the care that is provided (Haider et al. 2011, 2015a, 2015b; Zestcott et al., 2016). While recognizing that implicit bias exists, there is little research identifying an effective method of effecting change in the bias in professional nurses. This study will examine the impact of

participation in a poverty simulation on the attitudes toward poverty in professional nurses.

Problem Statement

In the US since 2015, the poverty rate was 12.7%, down less than 1% (Semega et al., 2017), but current projections for 2021 see the rate rising to 13.7% (Wheaton et al., 2021). Nearly 20% of children live in a home with income below 100% of the poverty level and over 40% of those are below 200% of the poverty level (Fierman et al., 2016). When resources are few, the choices for health care often require seeking free or reduced cost agencies for aid (Boylston & O'Rourke, 2013).

Attitudes impact an individual's perception of others and situations (Kooken et al. 2014). For example, the experience of seeking services by those with limited resources is identified as embarrassing and demeaning (Boylston & O'Rourke, 2013). This is further exacerbated for the patient living in poverty when they report experiencing impersonal interactions, long waits, and apathy from health care providers. These observations and experiences with providers influence an individual's decision to access care, comply with medical recommendations, or further complete recommended testing and treatment (Parkinson, 2009).

Past research has shown the existence of implicit bias in health care providers toward patients in poverty (Haider et al. 2011, 2015a, 2015b). As such, my research will explore methods to allow health care staff to recognize and examine the influence implicit bias has on professional practice. The study will involve participants in a discussion with people who have lived in poverty and will include a hands-on poverty

simulation. A survey tool to measure attitudes toward poverty was administered pre-and post-participation in the simulation.

While it has been demonstrated that implicit bias among nurses exists, more research is needed to promote positive change in nurses' implicit bias related to poverty (Zestcott et al., 2016). This research will fill the gap in the literature by identifying best practice for reducing implicit bias in professional nurses. The participation in the poverty simulation and accompanying discussion with people who have experienced poverty will provide exposure to the reality and the experiences of those who struggle in poverty. The results of the study may raise awareness of the poverty-related implicit bias and the influence of bias on patient care and patient outcomes.

Purpose of the Study

The purpose of this study was to determine if participation in a poverty simulation has an impact on the attitudes toward poverty of professional nurses. The evidence demonstrates the existence of implicit bias, but further research is needed to identify a method to impact this bias (Haider et al. 2011, 2015a, 2015b; Zestcott et al., 2016). To address this gap, a quantitative, quasi-experimental design was used. The intervention for this study was an online poverty simulation that demonstrated the experiences of those in poverty. The independent variable was the level of attitude toward poverty that was measured pre-intervention and the dependent variable was the level of attitude post-intervention. The covariates for this study were the participants' age, number of years as a nurse, and if the participant has cared for patients considered low-income or living at or below the poverty level.

Research Questions

Research Question (RQ): To what extent does participation in a poverty simulation influence the attitudes of professional nurses toward poverty as measured by the Attitudes Toward Poverty short form?

H0: Attitudes of professional nurses toward poverty are unchanged after participation in an online poverty simulation.

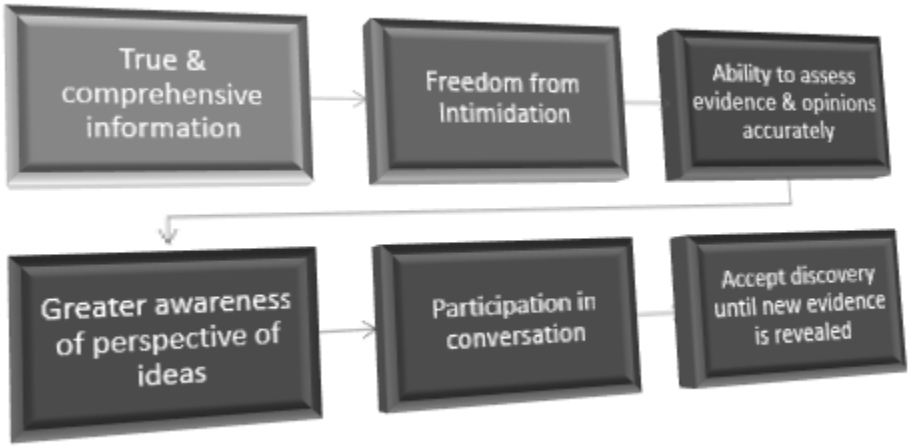
Ha: Attitudes of professional nurses toward poverty are changed after participation in an online poverty simulation.

Theoretical and Conceptual Framework

Due to the focus of this study on the impact of a simulation experience on implicit bias, the use of Mezirow's transformative learning theory was selected for my dissertation topic. Transformative learning is identified as adult learning that is based in the characteristics of human communication (Mezirow, 2008). Mezirow's assumptions include the following: learners must have true and comprehensive information, freedom from intimidation, the ability to assess evidence and opinions accurately, greater awareness of the perspective of ideas (including their own), a chance to participate in roles of conversation, and readiness to search out meaning and accept that discovery until new evidence is presented and confirmed (Mezirow, 2000), as shown in Figure 1.

Figure 1

Mezirow's assumptions in Transformative Learning Theory



Transformative learning includes involvement in productive conversation to use the experience of others to examine the motives for rationalizing ideas and thus making a conscious change based on the new insight (Mesirow, 2000). A particular viewpoint cannot be changed unless there is a willingness to examine another's particular view. This *transformational* learning enables the learner to become an active agent of change (Mezirow, 2000).

For this study I applied the propositions of transformative learning by examining the attitudes toward poverty that exist in professional nurses. The conversation of the study was the lived experiences of those in poverty as presented in the poverty simulation. The measurement of the success of the transformative learning was studied in the post-education survey to answer the question: To what extent does participation in a poverty simulation influence implicit bias of professional nurses?

Nature of the Study

This study was a quantitative, quasi-experimental design. Quantitative research provides statistical comparison of variables and was appropriate for measurement of survey data before and after the poverty simulation (Sukamolson, 2007). The quasi-experimental design allows for the study of existing groups to test the intervention. This quantitative quasi-experimental analysis assisted with identifying any changes that occur after participating in a poverty simulation. The 21-item Attitude Toward Poverty Short Form (ATP Short Form) Scale was used for measuring attitudes toward poverty (Yun & Weaver, 2010). This instrument was adapted from the original 37-item Attitude Toward Poverty (ATP) Scale by Atherton et al. (1993) and has been shown to be reliable and valid tool for measuring attitudes toward poverty.

Definitions

Assumption: intent; implied as a subtext; taken for granted (Mezirow, 2000).

Attitudes: tendency toward evaluating a particular target with a degree of approval or disapproval (Eagly & Chaiken, 2007).

Autonomy: the state of having self-direction (Oshana, 2016).

Food insecurity: inability to afford suitable, nourishing foods (Chaudry & Wimer, 2016; Jih et al., 2018; Loopstra, 2018).

Health equity: social justice in health; equal possibility to be healthy (Braveman, 2014).

Health inequality: health differences of individuals or populations (Cheng et al., 2015; Kawachi et al, 2002).

Health inequity or disparity: those inequalities considered unfair or unjust, and avoidable (Cheng et al., 2015; Kawachi et al, 2002).

Implicit bias: unintentional, or unawareness of, stereotyping and prejudice (Harrison & Falco, 2005; Rudman, 2004); unconscious assumptions, thoughts, and feelings based on recollections and encounters (Devine et al, 2012; Gonzalez et al., 2018; Murphy et al., 2018).

Perceptions: a principal form of awareness upon which conceptual knowledge is based (Efron, 1969).

Poverty: low socioeconomic status that includes both economic and sociological influence on living conditions and access to care (Miner et al., 2014); lack of economic resources with a struggle to meet basic needs (Berger et al., 2018).

Professional nurse: a registered nurse.

Socioeconomic status: an individual's current social and economic situation including living conditions and access to services and healthcare (Rubin et al., 2014).

Assumptions

An assumption constitutes intent or what is assumed such as a worldview or typical wisdom (Mezirow, 2000). Key assumptions in this study were that all participants would complete the pre- and post-survey with honest answers and participate in the poverty simulation. In addition, it was assumed that the participants were assured of privacy and anonymity. Participants accurately represented professional nurses in a large university health system. The selected health system was chosen for the study due

to access and availability to the population with a nursing force that provides access to a wide variance in patients' backgrounds and SES.

Scope and Delimitations

The aspects of attitudes toward poverty that was addressed in this study are the influence of participation in a poverty simulation and the extent to which those attitudes are affected after participation. Implicit bias toward those in poverty is present in professional nurses; this study examined the impact of hands-on experience on these biases (Zestcott et al., 2016). An online poverty simulation was chosen as it was something that can provide experiential learning. This examination of impact through the pre- and post-assessment of attitudes provided the internal validity of the study.

Mezirow's transformative learning theory was the conceptual framework for this study. While transformative learning theory was applied due to the education module as part of the internal validity, the scope of this study did not constitute the concept of identity that makes up this theory with perspectives, frames of reference, and practices of mind (Illeris, 2014). Social theory attempts to understand the people and the environment around us but is not applicable for this study as it is examining bias and influences on bias (Freshwater, 2017; Porter, 1998). While the oppressed group behavior model identifies those groups in poverty and the oppression they may experience, this model focuses on group behavior rather than on methods to end the oppression (Matheson & Bobay, 2007).

A standard quality in a quantitative study is generalization, which draws broad inferences from a specific observation (Polit & Beck, 2010). To address external validity

or generalization of this study, participants were only registered nurses employed in a large, midwestern health system. Participants were chosen because of the frequent interaction with patients who live in poverty due to the demographics of the patient population of this health system. To verify this, participants were surveyed as to the extent of their contact with patients who are considered impoverished. As this study examined implicit bias of those in poverty, it was necessary to identify participants who had interactions with patients who live at the poverty level or below.

Limitations

This study was conducted with professional nurses who completed a presimulation survey regarding attitudes towards those in poverty, participated in an online poverty simulation, and completed the survey a second time. A threat to internal validity was the concern that the changes in the attitudes toward poverty were influenced by motivation to simply receive the gift card compensation. Threats to external validity include awareness of the nature of the measurement from the pretest.

A potential bias was the use of the results in a study which could influence participant responses. Participants were encouraged to answer honestly in both the pre- and post-surveys and privacy of answers was assured. All participant answers were anonymous.

Significance

This project was unique because it addressed the unexplored impact of participation in an online poverty simulation on attitudes toward poverty of professional nurses. Nurses are called upon to evaluate their individual perceptions, attitudes, and

biases towards poverty and how these perceptions, attitudes and biases affect their practice and the patients they provide care to (Wittenauer et al., 2015). The results of this study provide much-needed insights into a method that may change attitudes toward the underserved and lower SES population, potentially providing improved patient advocacy and therefore promoting positive social change.

Insights from this study should aid health systems to identify potential bias and address it with redirection of staff. The increased trend of reimbursement based on patient satisfaction places greater significance on the patient experience regardless of economic status or social class. To impact positive social change, gaining insight of the experiences of those in poverty allows for a connection between those in healthcare and those in poverty, encouraging empowerment and providing support to face the obstacles they encounter.

Summary

Implicit bias toward those in poverty exists among health care professionals. This bias may negatively impact those in poverty complying with or seeking care. This study of implicit bias and the impact of participation in an online poverty simulation may identify methods to decrease bias. Chapter 2 will provide a comprehensive review of the literature of implicit bias, perceptions, and attitudes toward poverty and the relationships between bias and patient care. Key themes in the literature were identified and describe how this study fills the current research gaps.

Chapter 2: Literature Review

Introduction

The purpose of this study was to determine whether an online poverty simulation had an influence on implicit bias of registered nurses toward individuals living in poverty. Although nurses and physicians are bound by their professional codes of ethics to treat all patients equally, bias toward patients exists throughout healthcare (Dickman et al., 2017; LaVeist & Isaac, 2012; Scheffer et al., 2019). Though many may not recognize this bias, even recognition does not necessarily impact change (Rozendo et al., 2017; Sukhera et al., 2018b; Wittenauer et al., 2015; Zrinyi & Balogh, 2004).

While the main goal of public health is social justice, whereby persons are treated equally and entitled to protections and minimum standards, there continues to be an imbalance that contributes to negative influences on health (Strasser et al., 2013). For example, while some foods may be available or affordable, they are often unhealthy and contribute to poor health outcomes. Those people in society with the least amount of autonomy have the least power to control their life challenges and those challenges impact overall health (Buchanan, 2008).

In the following sections, I review previous research that focused on factors associated with implicit bias toward persons of poverty by healthcare members. This review addresses the gap in literature and the body of research on the effects of bias on patient care and methods to address and impact bias. To better examine this issue, I used a conceptual framework to direct this review.

This literature review is organized in five main sections. In the first section, I review the conditions of poverty, the cultural and racial influences, and the impact on health. In Section 2, I examine the attitudes and bias toward those in poverty including societal attitudes and the attitudes of those in the healthcare field. In the third section, I explore the relationship between bias of healthcare members toward persons in poverty and the care received by those persons. Section 4 addresses methods of impacting existing bias in healthcare members and strategies used specifically for nurses. In the fifth section of this review, I summarize findings and explain the importance and impact of this study.

Strategies for Literature Search

This literature search strategy included internet searches through professional health and research organizations such as the Census Bureau, Center for Disease Control (CDC), National Institutes of Health (NIH), World Health Organization (WHO), and relevant health and nursing peer-reviewed journals. I conducted an exhaustive search of Academic Search Premier, Walden University's EBSCO databases, Google Scholar, Pub-Med, and Science Direct. Key terms used individually or in combination included *poverty, low income, nursing, attitudes, bias, perceptions, healthcare, disparities, prejudice, socioeconomic status (SES), simulation,* and *discrimination*. I initially searched for *poverty, nursing,* and *attitudes* for 2014 to 2019. However, after limited literature was found, I expanded the search using other terms such as *bias, low income, inequity, inequality,* and *healthcare*. This search provided numerous references,

including full text, peer-reviewed, and national reports. Over 100 articles and literature findings were used in this study.

Theoretical Framework

The principles of transformational theory provide the theoretical framework that informed this research. Mezirow (2008) identified this transformative learning that occurs within the learners' perspectives, judgment criteria, and the habits of thinking that are made up of skills, attitudes, and experience. These initial perspectives, or assumptions, are assumed to be truth and may be acquired during childhood and throughout life experiences and are influenced by the learners' socialization and culture (Mezirow, 2000). In addition, these assumptions remain defined by the perspective and criteria until the transformative process allows the learner to revise the meaning and perspective (Taylor, 2017).

A significant component of transformational learning is the realization that the interpretations and perceptions of youth may not be appropriate for adult thinking (Mezirow, 2000). This awareness allows for examination of not only the learners' assumptions and expectations but investigation of the assumptions and experiences of others. When someone else's point of view is tried on, our own points of view are changed (Mezirow, 2000). When learners seek out transformative insights they actively become cultural change agents (Mezirow, 2000).

Transformational theory has been applied in various studies of experiential learning. A study of residents in the Mayo International Health Program identified five components of learning while applying transformational learning and these were

identified as disorientation with the experience, passionate responses, critical reflecting, a change in perspective, and dedication to future steps toward change (Sawatsky et al., 2018). Tweedlie and Vincent (2019) conducted a study of student nurses, with little previous awareness of abuse or neglect of children, found that the initial knowledge and perceptions of the student nurses related to abused children were transformed after exposure to children who had been abused. The students reported initial disorientation due to preconceived ideas about family and environment but had an eventual change in frames of reference after critical reflection and understanding.

Transformational theory is the model of transformational learning that is examined in this project study. The point of the research is to use the transformational theory to assist students in examining their thoughts and perspectives toward those living in poverty. The self-reflection process incorporated into transformational theory will allow application of their simulation experience to influence their future interaction with those in poverty.

Conditions of Poverty

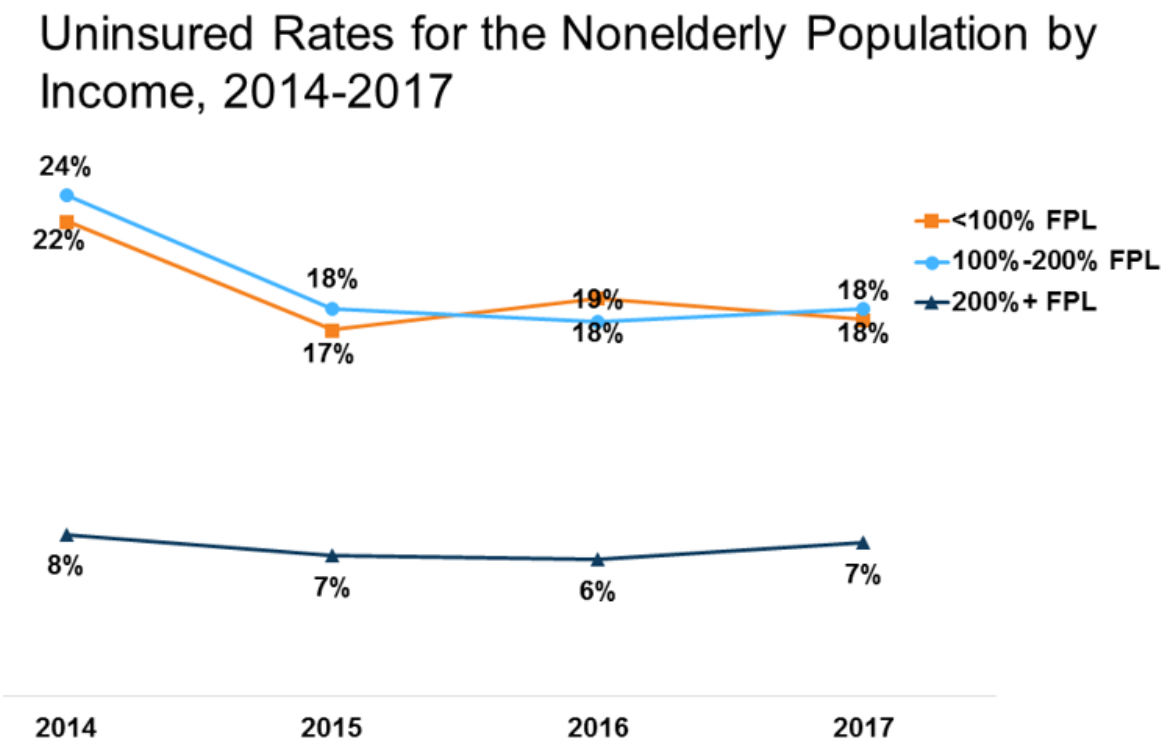
Incidence of Poverty

There is a continued increase in economic inequality in the US with approximately 1% of the population in control of 42% of the country's economic wealth (Murphy et al., 2018; Saez & Zucman, 2016). According to the 2018 Census data, the poverty rate in the US is 11.8%. In addition, the percentage of non-elderly population without insurance coverage is 11% despite the implementation of the Affordable Care Act or ACA (Cohen et al., 2016). Poor (<100% of the federal poverty level or FPL) and

near poor individuals (100-200% of FPL) are twice as likely to be uninsured as those with higher incomes (Figure 2). This lack of healthcare coverage impacts access to care, the type of care, and the ability to comply with care (Foutz et al., 2017). Compounded with this difficulty to access is the perception of bias in care that influences compliance as well (Arpey et al., 2017).

Figure 2

Uninsured Rates for the Nonelderly Population by Income (2014-2017)



Note. Adapted from "Health insurance coverage: Early release of estimates from the National Health Interview Survey, 2017" by M. Martinez, R. Cohen, and E. Zammitti, 2017, *National Center for Health Statistics*, p. 3. Reprinted with permission.

While economic poverty is identified as income that fails to meet federally established levels, absolute poverty encompasses the ability or inability to meet the basic needs of food, clothing, and shelter (United Nations, 2017). The consequences of poverty impact not only access to care but the poor in the US are more likely to postpone medical care, be a victim of a crime, encounter food insufficiency, increased likelihood of obesity, experience lower quality educational opportunities, and be deprived of sleep (Duncan et al., 2017; Ingraham, 2014).

The selection of bias toward persons in poverty was influenced by the larger impact that is experienced when people go without or with limited contact to healthcare. A link exists between social and economic inequality and mental illness, obesity, and other major health crises (Larson, 2007; Macintyre et al., 2018; Ogden et al., 2015; Raphael, 2011; Wagstaff, 2002). The experience of poverty as a child can predict negative health outcomes during adulthood as well (Raphael, 2011). When the experience of bias impacts willingness to seek care or compliance with care, the odds of poor health outcomes increase.

Examination of Health Disparities

An examination of health disparities begins with the link between family income and poverty, resulting in material difficulties (Chaudry & Wimer, 2016; Iceland & Bauman, 2007; Mayer & Jencks, 1989). Economic difficulties are related to poorer health outcomes and the poverty rate is an indicator of the health and well-being of society (Chaudry & Wimer, 2016). An examination of children experiencing at least a year of poverty found worse outcomes than those children who did not experience

poverty (Chaudry & Wimer, 2016). Those living in poverty are three times more likely to have difficulties with activities of daily living and children in poverty are more likely to experience risk factors such as obesity and above normal lead levels (Chokshi, 2018). The higher concentration of fast food and convenience stores in low income areas increases the risk of health care issues such as obesity (Larson et al., 2009; Murphy et al., 2018).

Health disparities continue to be driven by social determinants rather than differences in individual patient traits (Murphy et al, 2018). The condition of the patient environment can impact the disparities experienced and include living situation, access to nutritious food, education, job status, and transportation (Murphy et al, 2018). These health disparities are not only influenced of the social situation, but the conditions of individual care received in the care environment (Cooper et al., 2006; Murphy et al., 2018; Nelson, 2002). Unstable housing, food insecurity, and environmental violence increase the need for health care use (Billioux et al., 2017; Kushel et al., 2001; Murphy et al., 2018).

Child health disparities continue to persist with children of color and low-income families experiencing lower health status than those who have a higher standard of living (Cheng et al., 2009; Cheng et al., 2015; Flores, 2010). Disparities that begin in childhood have links to chronic illness in adults (Braveman & Barclay, 2009; Cheng et al., 2015). While there is an increasing movement to identify these disparities and address them, they are often not assessed and create a missed opportunity for identification and referral (Cheng et al., 2015, Fleegler et al., 2007).

Attitudes Toward Poverty

Societal Influence

While poverty rates have been at the forefront of politics since President Lyndon Johnson declared "War on Poverty" in the 1960s, there is contradictory news in the media with focus on the isolated incidents of abuse and the need for reform (Early, 2018; Rose & Baumgartner, 2013). President Ronald Reagan's campaign in 1976 repeatedly referred to people abusing the welfare system to collect benefits under aliases or purchase steak dinners (Rose et al., 2013). Politicians, such as President Barack Obama and Hillary Clinton, pledged to take on the problem of inequality, and current reform has focused on higher minimum wage, government-funded child-care, and expanding of Medicaid in an effort to reduce poverty (Early et al., 2018).

The mixed messages being presented in the media have an impact on perceptions of poverty (Rose et al., 2013). These perceptions are categorized as merited, or a result of personal consequences of actions, unmerited, or due to outside forces, and fatalistic, due to lack of skills or unfortunate circumstances (Kreidl, 2000). In the US, wealth is most often viewed as the result of great strength and skill, and poverty is viewed as the opposite of this (Kreidl, 2000). These false impressions may also be impacted by personal encounters as well as the media's representation of persons in poverty (Lott & Bullock, 2007). This public perception can strongly impact the support and implementation of public policy (Buchanan, 2008).

Healthcare Bias

While training for medical professionals includes population risk factors, this process may underpin stereotypes and contribute to bias (Hall et al., 2015; Murphy et al., 2018). This bias contributes to behavior that affects the health professional-patient relationship and influences aspects of care including diagnosis, treatment, and patient interactions (Blair et al., 2013; Chapman et al., 2013; Cooper et al., 2012; Gonzalez et al., 2018; Greer, 2010; Murphy et al., 2018; Thrasher et al., 2008).

In a 2016 study of social work students by Hill, Toft, Garrett, Ferguson, and Kuechler, there was a correlation between positive attitudes toward those in poverty and fundamental responses for addressing it. Conversely, those with negative attitudes toward the poor increasingly addressed this as the individual's contributions to their own situations. While the program of study had a commitment to social justice, the personal student attitudes were influenced by bias.

The Relationship between Bias and Patient Care

The use of the term 'bias' most often refers to both inherent stereotypes and preconceived ideas and is concerning when it occurs in healthcare (Fitzgerald & Hurst, 2017). To provide impartial care, it is important for clinical professionals to be aware of any negative assumption linked to a specific group or characteristic (Fitzgerald & Hurst, 2017). Stereotypes can impair care even when they are not specifically negative (Fitzgerald & Hurst, 2017). Patient outcomes can be impaired by patient perception of bias (Gonzalez et al., 2018). A patient perception of their visit has a correlation with retention, follow up of instructions and treatment, and improvement in specific health

conditions (Chrystal et al., 2015; Kim et al., 2007; Roumie et al., 2011; Safran et al., 2001). In addition, reimbursement that is tied to patient satisfaction is on an upward trajectory (Lindsay, 2017).

Evidence has demonstrated that bias negatively impacts patient perception of care and treatment received, and trust of the health professional (Blair et al., 2013; Cooper et al., 2012; Greer, 2010; Penner et al., 2016; Thrasher et al., 2008). A 2006 study by Barnhart and Wassertheil-Smoller found that although race and gender did not significantly affect treatment, there were notable differences found in care with those patients of lower SES. Dehlendorf et al. (2010) found that those patients with lower SES were less like to have intrauterine contraception suggested and judged as more likely to have a sexually transmitted infection (STI), unintended pregnancy, and be less knowledgeable. A significant relationship was found between rating of SES and estimates of patient demeanor with an association by health providers of higher hostile demeanor with lower SES (Kales et al., 2005).

Impacts on Bias

Strategies to reduce bias should include recognition of bias and approaches to view the patient as an individual (Chapman et al., 2013; Devine et al., 2012, Hall et al., 2015; Murphy et al., 2018). While it is known that bias can negatively impact the patient visit, treatment, and trust, there is still varied recommendations on what can restore the relationship with the patient (Gonzalez et al., 2018). Understanding of how bias develops should be included when developing health education (Sword et al., 2004) and could impact professional practice once training is complete.

In a study of bias and prejudice in clinical encounters, patients described their perceptions of the bias and prejudice (Gonzalez et al., 2018). These patients found a positive or negative outcome from the visit was dependent on acknowledgement by the provider of the perceived bias and the actions that followed. This acknowledgement, or intervention, provided for trust to be established and further engagement in care. For those that experienced ignoring of the bias, while the patient may have trust in their care, they were more likely to avoid future seeking of care.

Clinical education with clients of low SES has been noted to improve social awareness (DeLashmutt & Rankin, 2005) but has also been connected with increased belief that personal choices lead to poor outcomes (Sword et al., 2004; Work et al., 2015). Simulations and role play of the impoverished has had mixed results with nursing students based on attitudes of poverty causation but has been some agreement that structural barriers played a major factor in poverty (MACA, 2020; Patterson & Hulton, 2012; Vandsburger et al., 2010).

The Poverty Simulation

Making Tough Choices is an online poverty simulation created by the United Way of Connecticut (2014). It was created as part of a comprehensive project known as "Asset Limited, Income Constrained, Employed" (ALICE) to address issues facing low-income families. The simulation puts participants in the role of a parent who must find housing, a low-wage job, transportation, and health care for their family with limited savings. Participants must face difficult choices during each "day", such as missing work

due to an ill child, allowing a child to attend a school event that will cost money outside of the budget, or assisting a family member in crisis at the risk of losing personal money.

It is important to note that while this type of simulation is often a live and in-person, current conditions in the US with the emergency pandemic has created the need for this to be an online opportunity. This format provided the researcher the opportunity to complete the research study for this dissertation, but also provided nurses an additional opportunity to participate in an education module when in-person learning opportunities are not as readily available.

Literature on Methodology

The use of a quantitative method to analyze the attitudes toward poverty is well-supported in the literature (Aspden et al., 2016; Blair et al., 2014; Boylston & O'Rourke, 2013; Bray & Schommer-Aikins, 2016; Clarke et al., 2016; Delavega et al., 2017; Frank & Rice, 2017; Garrett-Wright et al., 2017; Hill et al., 2016; Hitchcock et al., 2018; Jarrell et al., 2014; Jilani et al., 2015; Phillips et al., 2020; Roussos & Dovidio, 2016; Scheffer et al., 2019; Shor et al., 2019; Smith et al., 2016; Sword et al., 2004; Turk & Colbert, 2018; Wittenauer et al., 2015). Some of the most significant include those by Boylston and O'Rourke (2013), Frank and Rice (2017), Jarrell et al. (2014), and Scheffer et al., (2019).

A pre-post design study measured nursing students' world views and empathy toward those in poverty (Jarrell et al., 2014). Utilizing the Attitudes about Poverty and Poor People Scale and the Just World Scale, researchers found that while providing care in a service-learning environment enhanced levels of empathy and views of social justice, perceptions of the poor were not significantly improved. In an examination of the impact

of courses with curricula containing social determinants of health and health inequities, Scheffer et al. (2019) measured the attitudes toward social justice and poverty with the quantitative Attitude toward Poverty (ATP) scale and the Social Justice Scale (SJS). The pre- and post-term questionnaires allowed for clear analysis of the effect of education regarding inequities and the social determinants of health.

Boylston and O'Rourke (2013) utilized a mixed-methods approach with senior BSN students. The study assessed the attitudes toward homelessness with a qualitative survey of experience with homelessness and a 20-item survey assessing public attitudes toward homeless (PATH). While the focus group data revealed identification of internal and external factors associated with homelessness, the quantitative data from the PATH survey demonstrated a shift in attitudes from negative to positive after an 8-hour clinical experience. In a study of first year social work students taking a new poverty course, Frank and Rice (2017) surveyed students with a 39-question undergraduate perceptions of poverty tracking survey (UPPTS) in week 1 and 15 of the semester. The survey had six subscales related to attitudes regarding welfare programs, poor versus non-poor differences, equal opportunities, basic rights, and resources. The quantitative data revealed changes on two of the six subscales, demonstrating possibly altered perceptions regarding poverty during the course.

The use of quantitative analysis provides a foundation for future studies to compare the most effective methods for teaching about social justice and empathy. While studies exist that have utilized poverty simulation to measure attitudes toward poverty of students in various health professions, minimal research has been done that

focuses on the perceptions of professional nurses. Because such a significant segment of the population lives in poverty and seeks care and resources from public health systems employing professional nurses, this gap in knowledge and need for research was recognized.

Summary and Transition

This review of literature reinforces the gap in available research on methods to impact nursing bias toward those in poverty. Although some information was available on nursing students, social workers, and other healthcare providers, limited research existed on the influence of bias in professional nurses. While a trend appears to support recognition of bias as a first step toward change, a proven method of impacting nursing bias toward those in poverty remained a gap in the literature.

A quantitative approach examined whether participation in a poverty simulation might directly influence bias toward persons of poverty. The lack of research on this topic suggested the need to explore methods of impacting this bias. Limited quantitative and qualitative studies exist; however, many of the studies have been done with students rather than professional nurses. There was a need for more studies to identify methods to positively impact bias in professional nurses.

Chapter 3: Research Method

Introduction

The purpose of this quantitative quasi-experimental study was to determine what relationship exists between an online poverty simulation and attitudes toward poverty. Based on this purpose, the research question was formed. In this research study, participants were registered nurses who are employed in a large, midwestern health system. In this chapter, the research design and methodology are discussed. In addition, this chapter contains information about the target population utilized and the data collection. The survey instrument, data analysis, threats to validity, and ethical procedures are reviewed.

Quantitative Research Design and Rationale

Qualitative and quantitative research are each based on different methods of analysis and have specific strengths and weaknesses in the data that is detailed and applied (Steckler et al., 1992). A quantitative, quasi-experimental study design (see Osborne, 2008; Steckler et al., 1992; Sukamolson, 2007) was used to analyze the relationship between the attitudes toward poverty in professional nurses employed in a large midwestern health system with a presimulation survey (independent variable) and a postsimulation survey (dependent variable) after participation in an online poverty simulation (intervention). The research question was:

To what extent does participation in an online poverty simulation influence the attitudes of professional nurses toward poverty?

Study Variables

A quasi-experimental pretest/posttest quantitative research design was used to identify attitudes toward poverty for professional nurses with a poverty simulation. Attitude is defined as a tendency toward evaluating a specific target with a degree of approval or disapproval (Eagly & Chaiken, 2007). Attitude was measured by the 21-item Attitude Toward Poverty Short Form (ATP Short Form) Scale (Yun & Weaver, 2010). The ATP Short Form has 21 Likert-item questions and is discussed later in this chapter.

Study Design

The application of a quasi-experimental design necessitated the use of a validated tool to measure the specific study variables while managing the extrinsic and intrinsic factors (Creswell & Creswell, 2017). While the classic experimental study utilizes random sampling, this was not possible because of the need for existing nurse groups. As such, a quasi-experimental design was used to study the relationship between the independent variable of attitude toward poverty presimulation and the dependent variable of attitude toward poverty postsimulation. The pretest/posttest design examined the attitudes before and after the simulation.

Methodology

This methodology section outlines the population that was used for this study, the type of sampling method, sampling procedure, and recruitment information that was used. Data collection and analysis procedures were detailed as well as the instrument used to measure attitudes toward poverty. Threats to the study validity and ethical considerations are also discussed.

Population

The target population was registered nurses who were currently employed at a large, midwestern health system in the US. The research took place in the fall of 2020 with the potential size of the target population of 500 nurses. The number of nurses varies based on the attention to continuing education opportunities.

All nurses are required to complete continuing education credits to meet their licensure requirements. While this study did not provide continuing education credit, it did provide a learning opportunity and a chance to participate in nursing research.

Sampling and Sampling Procedures

This study required a sampling method that was readily available, nonrandom, and accessible and convenience sampling met these needs (Etikan et al., 2016). A convenience sample of registered nurses employed by a large, midwestern health system was recruited for participation. The nurses were given the objectives of the study with the option to consent or refuse to participate without any repercussions. The nurses were offered this optional opportunity within the health system. Inclusion criteria were as follows: registered nurses employed in a large, midwestern health system. Exclusion criteria for participation in the study were nurses that did not complete both the pre- and post-survey for the study and those who declined consent.

For this study, the software program G*Power 3.1.9.4 was used to estimate minimum sample size following the procedures described by Faul et al.(2007) and Faul et al. (2009). This allowed for specification of the alpha at .05, power at .80, and a medium

effect size of .5 with a 2-tailed *t* test G*Power analysis. The result indicated the total sample size needed was 35, for a critical t of 2.03.

Procedures for Recruitment

During the planning of the study, a request to use the online poverty simulation as a basis for pre- and post-testing was made to the director of education and development at the health system. To ensure possible recruitment for this research study, first approval was obtained by the Institutional Review Board (Walden IRB - #08-14-20-0558463) from both Walden University and the health system through which the simulation was offered. All participants in the poverty simulation were notified in advance of the study objectives and how the study survey would be conducted via the email sent to all registered nurses within the health system.

My contact information, as the primary researcher, was provided to the education department and nurses via email. Nurses were provided information regarding the survey prior to participation via email. Nurses were provided with information about the survey and the coordination of the survey with the poverty simulation. A flyer about the survey was sent to the health system nurses from the Education Department (Appendix C). The survey and simulation opportunity were offered for 1 week via the online learning platform of the health system, Docebo Helix. While the sampling estimates indicated a need for 35 participants, participation was extended to the first 50 participants to increase the likelihood of meeting the sampling size. Those nurses who chose to participate did so by accessing the education module via the link in the email. The objectives of the study

were clearly outlined in the consent and the consent form email was printable for each nurse. Participation was voluntary via the Survey Monkey program.

The participants' demographic information of age, years as a registered nurse, and prior experience caring for patients living at or below the poverty level was obtained. The surveys did not contain any participant identifiers beyond the demographic information needed for the study. Participants entered their date of birth as their participant number for both the pre- and post-simulation surveys. The anticipated time for the online poverty simulation was 15 – 30 minutes.

Nurses accessed the online education module which indicated their consent. Within the education module, participants completed the initial presimulation survey via a link to the independent survey generator, Survey Monkey, and participated in the online poverty simulation. Once the simulation was completed, the post-survey, via Survey Monkey, as accessed within the module. Both the pre- and post-simulation survey within Survey Monkey were the same questions from the ATP Short Form survey (Appendix B), apart from the questions related to demographics and nursing experience that were only on the presimulation survey. Data were collected over 1 week while the education module was available.

I was blinded to the nurses that completed the survey as each nurse accessed the module via a link in the information email and no identifiers, other than what was collected in the survey, were supplied to me. All participants had the informed consent form integrated in the electronic survey documents via the email. At the end of the

module, participants could enter their personal email to receive a $10 electronic gift card. This gift card was sent by an outside third party.

The online poverty simulation "Making Tough Choices" from the United Way of Connecticut (2014) consisted of a two-partner, two small children family scenario with a limited budget. The participant was presented with choices related to daily living activities such as selecting a job or finding housing. This simulation was designed for the participant to attempt to make it to the end of the month without running out of money and still successfully providing the basic necessities such as housing, food, transportation, childcare, and healthcare. Each choice impacts the subsequent choices and participants often run out of "money" quickly. The participants could repeat the simulation as many times as they liked. Once they completed the simulation, they completed the module by taking the postsimulation survey as the final step.

The health system education department will be notified of the research findings via email at which time I will submit a request to share the findings with nursing leadership and the health system nurses. In addition, a presentation is planned for the monthly nursing leadership meeting.

Instrumentation and Operationalization of Constructs

The key variables in this study were the attitude toward poverty measured before and after participation in the poverty simulation. Attitude toward poverty is an ordinal level of measurement used as continuous data. Attitudes were measured pre- and post-participation in the online poverty simulation using the ATP Short Form.

ATP Short Form.

The ATP Short Form (Appendix C) is a validated 21-item Likert scale that was adapted by Yun and Weaver in 2010 from an original 37-item Attitude Toward Poverty Scale by Atherton et al. (1993). This shortened form was created to enable researchers to administer the survey more quickly than the original but maintain the reliability and validity of the 37-item ATP scale and allow for a multi-dimensional alternative to the original. The initial analysis of the ATP Short Form found a high level of internal reliability with $\alpha = .87$ (Yun & Weaver, 2010). The subscales all demonstrated values above the customary levels for internal consistency within 0.50 and 0.70 (Vaske, Beaman, & Sponarski, 2017). The convergent validity was created through examination of the correlation of coefficients between the original scale and the short form, finding high positive correlations with the original with ranges from .76 to .85 (Yun & Weaver, 2010). In addition, using an independent samples *t*-test, known-groups validity was established by investigation of attitudes of students who identified as politically left-wing and those identifying as right-wing. The short form has been used in many previous studies (Blair et al., 2014; Clarke et al., 2016; Menzel et al., 2014; Noone et al., 2012; Patterson & Hulton, 2012). Permission to use this tool was received from Dr. Sung Hyun Yun in July 2019 (Appendix D).

The ATP 21-item Short Form uses a 5-point Likert-type scale ranging from *strongly agree (SA) to strongly disagree (SD)*. The structure and loading of the short form contain three factors (Yun & Weaver, 2010). The first factor of personal deficiency is addressed with 7-items on the scale, and an example of this factor is “Poor people are different from the rest of society” (Yun & Weaver, 2010, p. 181). The second factor of

stigma is addressed with 8-items on the scale, and an example of this factor is "There is a lot of fraud among welfare recipients" (Yun & Weaver, 2010, p. 181). The final factor, which is structural perspective, is addressed with 6-items on the scale, and an example of this factor is "People are poor due to circumstances beyond their control" (Yun & Weaver, 2010, p. 181).

Data Analysis

Descriptive statistics and a paired *t*-test were used to compare the mean differences between the pre-and post-simulation surveys using the Statistical Package for the Social Sciences (SPSS), version 25 (I.B.M Corp, 2017). The data were cleaned and visually reviewed for omissions or incomplete forms.

RQ: To what extent does participation in a poverty simulation influence the attitudes of professional nurses toward poverty as measured by the Attitudes Toward Poverty short form?

H_0: Attitudes of professional nurse toward poverty are unchanged after participation in a poverty simulation.

H_a: Attitudes of professional nurses toward poverty are changed after participation in a poverty simulation.

Analysis:

A paired *t*-test was used to determine if there was a statistically significant difference between the matched pairs of attitudes toward poverty between the pre- and post-simulation surveys. The assumptions of the *t*-test for this study were the paired groups of

the same participants for the pre- and post-simulation surveys, no significant outliers in the difference between the two groups, and the normality follows a normal distribution.

Threats to Validity

The capability to accept or reject the null hypothesis was based on the study findings. Issues exist that may influence the validity of research, and the following sections discuss external, internal, and construct or statistical validity. In addition, ethical procedures that were followed for the research are detailed as well.

Threats to External Validity

Threats to external validity may occur when inappropriate interpretations are made from research findings to other situations (Creswell & Creswell, 2017). Generalization of findings should be done with caution as the sample population in a particular setting may not be transferred to a similar group in another setting. The sample for this study was drawn from a large, midwestern health system and may affect the generalizability of the results. A single research study such as this requires careful interpretation but adds to the existing body of knowledge.

Testing reactivity was possible with the pre- and post-survey design of this study and informs the responses to the repeated survey questions and impacted how the survey was answered at each interval. The use of replication studies assisted with validating research findings (Creswell & Creswell, 2017).

Threats to Internal Validity

Threats to internal validity can come from the varied activities in the poverty simulation and the previous experience of the participants (Creswell & Creswell, 2017).

The instrument used in this study required nurses to make assumptions. The internal constructs of the ATP Short Form were supported by the study constructs. Using the same survey instrument at both intervals supported the outcome of the study but familiarity with the instrument questions may have influenced postsimulation answers.

Completing the pre- and post-surveys in a single session supported the internal validity of the findings with a consistent record and development time over the course of the study (Creswell & Creswell, 2017). The differences between the participants' experiences during the poverty simulation may have influenced the outcome data. The data analysis examined the mean differences between the pre- and post-surveys.

Threats to Construct or Statistical Validity

A threat to construct validity could occur when the constructs are not clearly identified and measured appropriately (Creswell & Creswell, 2017). The use of the ATP Short Form supported the construct required to measure attitudes toward poverty by the frequent testing found in the research literature. Statistical conclusion validity may occur when interpretations are drawn from the data erroneously because of inappropriate of assumptions on the specific statistical tests, insufficient participant numbers, and inaccurate statistical power (Creswell & Creswell, 2017). This health system had an adequate number of nurses that meet the inclusion criteria for study participation. An acceptable sample size assisted to lower the risk of statistical conclusion validity. Assumptions for the independent *t*-test were met.

Ethical Procedures

High regard was given to protect the rights and minimize the risk to participants who agreed to take part in this study as detailed in this section. Permission was obtained from the Walden University's IRB (#08-14-20-0558463), as well as the health system's nursing leadership before any data collection procedures were initiated. The initial agreement was obtained from the health system's director of nursing practice, research, and professional development before approaching any nurses employed by the health system. Once permission was obtained from the IRB, the nurses were contacted via email from me that was approved by nursing leadership and a flyer was posted on the educational opportunities forum of the health system. Permission to participate in this study was obtained and anonymity was maintained for participants. Nurses were provided informed consent, and participation in the study was not tracked by me other than providing information and clarification as necessary.

Informed consent was given electronically to the research process. All nurses were provided study background information, procedures used for the study, participant responsibility, the right to refuse participation without penalty, and the privacy and confidentiality that was used throughout the study process. While many learning modules may be required for nursing staff, this study participation was completely voluntary for nurses employed in this health system.

All registered nurses were given access to participate in the research study but could opt not to participate by not completing the surveys. Nurses were notified that their participation had no influence on their employment status. All nurses were given the

same time period for completion of the research tools before and after the poverty simulation. Nurses were able to withdraw from study participation at any time without fear of repercussions. Upon completion of the post survey, nurses received an electronic gift card valued at $10.00.

The consent and surveys were provided through the electronic survey link on Survey Monkey. Nurses that consented to participate were directed to access the module through the link on the email. Clicking on the link to the education module indicated the consent for the nurses. It was clearly stated participants should not click the link to access the module unless they chose to consent and participate. The survey had no identifiers beyond the descriptive data and use of the participants date of birth for the pre- and post-simulation surveys. All responses were anonymous, and no identifiers were placed in the survey that would enable identification of an individual nurse. All data was provided through the education module link and on the secure server for up to 30 days. The data was stored in a secure, removed, password-protected computer, in a personal location and will be kept for five years.

All participants received my contact information for concerns or questions and contact information for the Research Participant Advocate at Walden University. The health system nursing leadership and nurses will be updated on the results of the study once the data is analyzed. Participation in the study did not present a threat to participants' welfare or wellbeing. The additional time for survey completion may have posed a risk of minor discomfort from sitting at a computer for a prolonged period.

The benefit of nurse participation in the research study was improved insight of attitudes toward poverty, knowledge gained of the research process, and the ability to apply simulation learning to professional practice. Anonymity was maintaining during the reporting phase of the study and there was a concentrated effort to minimize risk to the nursing participants.

Summary

Attitudes toward poverty can impact patient care, consciously or unconsciously. It is important to provide the opportunity to explore these attitudes and learn from them, allowing them to change the way they approach patients based on the learning. The activities of the poverty simulation provided nurses the experience of common issues faced by those in poverty and a chance to understand and relate to those experiences. The quasi-experimental, pre- and post-survey design examined a sample population of registered nurses and helped to provide evidence for poverty simulations and the influence on professional nursing practice.

Current research supports identification of attitudes, or bias, in clinical health professionals but there was a gap in the literature for experiences that influence those attitudes. This research study adds to the current body of knowledge and provides some insight into nurse attitudes toward poverty after viewing the experiences of those in poverty. Chapter 3 has described how this research study was conducted and chapter 4 details an analysis of the data results, presentation of the descriptive and statistical tests performed, and assumptions to be conducted.

Chapter 4 also further discusses the interventions used in this research study. This discussion includes the data collection procedures used for this study, the results that were gathered, a presentation of the findings, and analysis of the overall results. The findings in relation to external validity were reviewed as well as the challenges encountered, and support or rejection of the null hypothesis is discussed.

Chapter 4: Results

Introduction

The purpose of this research study was to evaluate professional nurses' attitudes towards poverty after participation in an online poverty simulation. The review of literature in Chapter 2 supported the use of a poverty simulation as an effective intervention as well as the use of the ATP Short Form (Yun & Weaver, 2010) as a reliable method of assessing attitudes toward poverty. The research question and the hypotheses for this research study is:

RQ: To what extent does participation in a poverty simulation influence the attitudes of professional nurses toward poverty as measured by the Attitudes Toward Poverty short form?

H_0: Attitudes of professional nurse toward poverty are unchanged after participation in a poverty simulation.

H_a: Attitudes of professional nurses toward poverty are changed after participation in a poverty simulation.

The results were analyzed using the statistical package for the social sciences (SPSS) for the demographic information and the data collected and downloaded from Survey Monkey. The Survey Monkey links for the demographics, and pre- and post-simulation surveys were embedded in the education module provided on the learning platform Docebo Helix. Chapter 4 will review the procedures of data collection, changes and challenges encountered during the study, the study results, and the summary.

Data Collection

Data collection was completed in December 2020 after Walden University's IRB granted approval (#08-14-20-0558463) and the partnering health system's IRB determined that the study did not require their official approval as the module would be sent directly from me, the researcher. After interest was generated by the flyer sent to all registered nurses from the education department, I sent a direct email to registered nurses outlining my study and requested participation. The email contained a link to participate and was limited to the first 50 nurses to volunteer.

Data Collection Changes

The original plan for this study was to have nurses participate in a live poverty simulation in collaboration with an affiliated university. Due to the pandemic, the university was not doing any in-person activities and an alternative plan was identified for the study. This change was approved by the Walden IRB and the affiliated university did not participate in this study.

Baseline Descriptive and Demographic Data

The invitation for study participation was sent to approximately 500 registered nurses in the health system. It was open to the first 50 nurses who selected to participate by clicking on the education module link. Participation was voluntary, anonymous, had no impact on their employment, and was clearly outlined in the invitation.

A total of 45 nurses accessed the education module to participate. There were 35 registered nurses who completed all three aspects of the module: the presimulation

survey, online simulation, and postsimulation survey. Any participants who did not complete all three aspects were removed from the data set.

The mean age of participants was 30.86 years of age. The average number of years as a nurse was 9.33. Of those surveyed, all the nurses had experience caring for patients who were considered low-income. Table 1 contains the demographic characteristics of the registered nurses who participated.

Table 1

Demographic Characteristics of Registered Nurses (*N* = 35)

Characteristic	*n*	%
Age at time of survey (years)		
Unknown	3	8.57
22-30	17	48.57
31-45	8	22.86
46-70	7	20.00
Nurse experience (years)		
0-5	18	51.43
6-15	10	28.57
16-25	4	11.43
26-45	3	8.57

The G* Power calculation determined the needed sample size for validity was 34 registered nurses. The presimulation survey had 35 valid responses with four not

calculated due to incomplete corresponding postsimulation surveys. There were 35 valid postsimulation surveys with seven determined to be invalid.

The pre- and post-simulation survey influences the internal validity as the 21-item ATP Short Form was used for both surveys and may threaten the internal validity of the results (Creswell, 2009). I calculated Cronbach's alpha of .924 for the 21-item ATP Short Form by using the scores of the pre- and post-simulation surveys. The reliability level correlates with previous research of the ATP Short Form in other poverty studies (Blair et al., 2014; Clarke et al., 2016; Menzel et al., 2014; Noone et al., 2012; Patterson & Hulton, 2012; Scheffer et al., 2019). The presimulation survey contained the questions for the demographic data while the postsimulation survey only contained the ATP Short Form questions.

Results

A paired samples *t*-test was conducted to compare the mean ATP Short Form scores for the registered nurses before the online simulation experience and after (N = 35). The assumptions were met, and a test of homogeneity was not needed for the paired *t*-test (Zimmerman, 2004). The *t* test analysis demonstrated significant differences in the ATP Short Form scores before the simulation ($Mpre$ = 3.852, SD = .693) compared to after the simulation ($Mpost$ = 4.019, SD = .706); $t(34) = 3.149$, $p = .003$, two-tailed. The 95% CI for the difference between the sample means, $Mpre - Mpost$, had a lower bound of -.274 and an upper bound of -.059. Tables 2 and 3 demonstrate the pre- and post-simulation details of the ATP Short Form scoring. A strong effect size is clearly demonstrated with Cohen's (d = -.532) and Hedges' correction (g = -.526).

Table 2

Paired Means of Pre- and Post-Simulation Surveys

Variable	Mean	*N*	*SD*
Pre-Sim Survey	3.852	35	.693
Post-Sim Survey	4.019	35	.706

The nurses ($N = 35$) answered the ATP Short Form survey before and after the simulation, with significant statistical differences between the presimulation ($Mpre = 3.852$, $SD = .693$) and postsimulation ($Mpost = 4.019$, $SD = .706$) attitudes toward poverty, $t(34) = -3.149$, $p = .003$, two-tailed. The 95% CI for the differences between the sample means, *Mpre – Mpost*, had a lower bound of -.274 and an upper bound of -.059. Cronbach's alpha (21 items; $\alpha = .924$) demonstrated a high internal consistency. The null hypothesis (H_0) was rejected because of the significant differences in the attitudes toward poverty in registered nurses after participation in an online poverty simulation.

Table 3

Mean Comparison of Pre- and Post-Simulation Surveys

Variable	Mean	*SD*	*T*	*p*
ATP Score	-.167	.313	-3.149	.003

Summary

Chapter 4 provided the research findings based on implementation of statistical analysis. Changes to the original plan were explained along with the answers to the

research question and hypotheses. Charts and tables enabled examination of the descriptive statistics and the independent *t*-tests employed for data analysis. The results demonstrated significant differences in registered nurses' attitudes toward poverty before and after participation in the online poverty simulation. Chapter 5 will discuss the findings interpretation, limitations of the study, and future recommendations.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to determine if participation in an online poverty simulation had an impact on the attitudes toward poverty of registered nurses. A quantitative, quasi-experimental design with a pre-test and post-test was used with a convenience sampling of registered nurses employed by a large, midwestern health system. The nurses completed their participation by accessing an online education module that contained both the pre- and post-simulation surveys and the online poverty simulation.

The research question driving this study was:

To what extent does participation in a poverty simulation influence the attitudes of professional nurses toward poverty as measured by the Attitudes Toward Poverty short form?

There were significant noted differences regarding the nurses' attitudes toward poverty after participation in the online poverty simulation. Chapter 5 will provide an interpretation of these findings, limitations of the study, recommendations, implications for positive social change, and the conclusion.

Interpretation of the Findings

Nurses and physicians are bound by their codes of ethics to remain unbiased and treat all patients equally; however, bias toward patients is present within patient care (Dickman et al., 2017; LaVeist & Isaac, 2012; Scheffer et al., 2019). Training for medical professionals includes the addressing of population risk factors, there is evidence

that this process may reinforce stereotypes and influence bias (Hall et al., 2015; Murphy et al., 2018). However, while some do not acknowledge or recognize this bias, recognition does not necessarily contribute to change (Rozendo et al., 2017; Sukhera et al., 2018b; Wittenauer et al., 2015; Zrinyi & Balogh, 2004).

Quantitative methods have been used to analyze attitudes toward poverty and is well-supported in the literature, including those, like this study, that found improved attitudes after participation in a simulation activity such (Aspden et al., 2016; Clarke et al., 2016; Garrett-Wright et al., 2017; Hitchcock et al., 2018; Phillips et al., 2020; Smith et al., 2016; Turk & Colbert, 2018). Other studies found improved attitudes after interventions such as clinical experience or courses with focus on cultural or social problems, or social empathy (Boylston & O'Rourke, 2013; Delavega et al., 2017; Frank & Rice, 2017; Hill et al., 2016).

Studies that included assessment of participants' income or social class found that those with lower income or social class tended to have less positive attitudes (Bray & Schommer-Aikins, 2016; Roussos & Dovidio, 2016; Shorey & Ng, 2020). A study by Jilani et al. (2015) noted that those participants with more clinical experience had less favorable attitudes than their pre-clinical counterparts while another study found the opposite to be true (Sword et al., 2004). A connection was made between more positive attitudes toward poverty among those participants with higher education levels (Scheffer et al., 2019; Wittenauer et al., 2015). Jarrell et al.(2014) found improved empathy but not the superficial perceptions of those in poverty.

While studies exist that have used poverty simulation to measure attitudes toward poverty of students in various health professions, minimal research has been done that focuses on the perceptions of professional nurses. Because such a significant segment of the population lives in poverty and seeks care and resources from public health systems employing professional nurses, the results of this study addressed this gap.

Theoretical Implications

Mezirow's transformative learning theory consists of six assumptions: learners must have true and comprehensive information, freedom from intimidation, the ability to assess evidence and opinions accurately, greater awareness of the perspective of ideas (including their own), a chance to participate in roles of conversation, and readiness to search out meaning and accept that discovery until new evidence is presented and confirmed (Mezirow, 2000). These assumptions were all applied to this study by allowing participants to (a) receive researched data related to poverty, (b) be free of intimidation while completing the simulation, (c) assess the evidence and form their own opinions, (d) gain awareness of their perspective with their pre- and post-simulation survey answers, and (e) take that awareness as an opportunity to search out the meaning and discovery. The attitudes toward poverty measured in the ATP Short Form demonstrate significant change in attitude after the online simulation and support Mezirow's transformative learning theory.

Limitations of the Study

Limitations are characteristic for research designs and this study acknowledges those limitations. The study was limited to those registered nurses who are employed by

a specific large health system in a large, midwestern community. This health system is one of several in the area and other systems also care for many people who live at or below the poverty level. In addition, poverty exists in the smaller, rural communities outside this area and those nurses who provide care in rural areas were not included.

Because the education module took only 15 to 30 minutes to complete, it did not qualify to fulfill the requirements of a continuing education credit. Nurse participation may have been higher if continuing education credit could have been provided. The online simulation was created to focus on those individuals living in Connecticut and much of the data provided was specific to Connecticut. It may have been more meaningful to have all of the data related to the simulation choices (such as job selection, housing burdens, and food insecurity) more specific to the community where the nurses resided.

All of the registered nurse participants reported previous experience caring for patients who are considered “low-income”, but 20% reported their years as a registered nurse as 1 year or less. Most nursing programs have specific education related to care of those who live in poverty and this may have influenced their attitudes toward poverty prior to the simulation. The generalizability of these study findings is limited to the specific population of registered nurses in this study.

Recommendations

Future research should continue to identify methods to provide the experience to “step into the shoes” of those who live in poverty. While this study demonstrated the effectiveness of impacting the attitudes of registered nurses in a large health system with

the use of an online poverty simulation, other nursing populations should be explored. Multi-area, multi-state research would impact more generalizable data. Other large health systems with similar population bases would also contribute to the evidence. In addition, rural areas that large percentages of the population who are low-income or living at or below the poverty level would also assist with contributing to the literature.

This study focused on registered nurses using an online poverty simulation due to restrictions around COVID-19. Other poverty simulations that are in-person events have also been found to be very effective with healthcare education students and other healthcare professionals. Use of in-person events after restrictions are lessened might benefit the experience of poverty simulation for registered nurses.

Expansion of the poverty simulation to interactive, virtual opportunities has been limited. While virtual and simulated learning has been used for a number of education and training programs, this learning has focused on patient care and not the lived experience of the patient (Qiao et al., 2021; Shorey & Ng, 2020). Halfer and Rosenheck (2014) utilized a virtual environment that allowed nurses to "walk" through a replica of a new hospital with an avatar. A number of studies have utilized the software Second Life (SL) which is a multi-user virtual environment (MUVE) and a virtual world (VW) to have users interact with patients and provide care (Caylor et al., 2015; King et al., 2012). While these types of learning have been used for nursing students and other healthcare students as well as in professional healthcare for teamwork, communication, and interprofessional collaboration, the literature provides very little that identifies use of this technology to place the end user in the "lived experience" of the patient themselves.

Implications

Positive Social Change

The experience of seeking services by those with limited resources is identified as often embarrassing and demeaning (Boylston & O'Rourke, 2013). This is further exacerbated for the patient living in poverty when they report experiencing impersonal interactions, long waits, and apathy from health care providers. These observations and experiences with medical caregivers influence the decision to access care, comply with medical recommendations, or further complete recommended testing and treatment (Parkinson, 2009).

Nurses are called upon to evaluate their individual perceptions, attitudes, and biases towards poverty and how these perceptions, attitudes and biases affect their practice and the patients they provide care to (Wittenauer et al., 2015). Implicit bias toward those in poverty is present in professional nurses (Zestcott et al., 2016); this study examined the impact of hands-on experience on these biases. The experience of the online poverty simulation showed that there were significant changes in registered nurses' attitudes toward poverty after participation. This demonstrates the impact to positive social change by allowing nurses to recognize their bias and attitudes and modify them afterward.

Recommendations for Nursing Practice

Healthcare often consists of busy, chaotic environments and this fast pace has considerably increased with the current pandemic and the amplified burden on our

healthcare workers with a significant burden on nurses. Mandatory professional nursing education requirements must be carefully weighed by nursing leadership to address what is necessary for improving patient care and outcomes. While examination of attitudes and biases do not directly contribute to caring for physical aspects of patient care, these attitudes and biases do have an effect on the holistic care of the patient. While greater understanding of holistic patient care, including addressing bias and attitude, is increasingly included in nursing curriculum, this is often not revisited once a nurse enters the professional environment. Positive social change may be impacted by including this exploration of bias and attitude in the professional nurse through the lived experience provided in a poverty simulation.

Conclusion

All the nurses in this study reported having cared for a patient who was low-income or considered living in poverty. This research study contributes to best practice when identifying methods to address and impact attitudes toward these patients who live in poverty. There were significant statistical differences noted in registered nurses' attitudes toward poverty after participation in the online poverty simulation. Ongoing research is required to identify and support best practice for recognizing and addressing bias in professional nurses. The use of Mezirow's transformational learning theory supported this research initiative and is helpful in research on bias. Positive social change starts with professional nurses who are supported in recognizing and addressing bias in their patient care.

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Appendix A: Survey

Survey – was electronically provided on Survey Monkey

Demographic information

- Age: ___
- Total number of years as a Registered Nurse: ___
- Have you had experience caring for patients who are considered low-income or living at or below the poverty level? Yes ___ No ___

ATP 21-item Short Form

1. Poor people are dishonest.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
2. Poor people are different from the rest of society.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
3. Children raised on welfare will never amount to anything.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
4. Poor people act differently.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
5. Most poor people are dirty.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree

    e. Strongly Disagree
6. Poor people generally have lower intelligence than nonpoor people.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
7. I believe poor people have a different set of values than do other people.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
8. Welfare makes people lazy.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
9. An able-bodied person collecting welfare is ripping off the system.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
10. Unemployed poor people could find jobs if they tried harder.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
11. Poor people think they deserve to be supported.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
12. Welfare mothers have babies to get more money.
    a. Strongly Agree
    b. Agree
    c. Neutral

d. Disagree
e. Strongly Disagree

13. Some “poor” people live better than I do, considering all their benefits.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
14. There is a lot of fraud among welfare recipients.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
15. Benefits for poor people consume a major part of the federal budget.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
16. People are poor due to circumstances beyond their control.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
17. Society has the responsibility to help poor people.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
18. Poor people are discriminated against.
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
19. People who are poor should not be blamed for their misfortune.
    a. Strongly Agree
    b. Agree

   c. Neutral
   d. Disagree
   e. Strongly Disagree

20. If I were poor, I would accept welfare benefits.
   a. Strongly Agree
   b. Agree
   c. Neutral
   d. Disagree
   e. Strongly Disagree

21. I would support a program that resulted in higher taxes to support social programs for poor people.
   a. Strongly Agree
   b. Agree
   c. Neutral
   d. Disagree
   e. Strongly Disagree

This survey instrument is used with permission from the author, Sung Hyun Yun, PhD, MSW.

Appendix B: ATP Short Form

ATP 21-item Short Form

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Poor people are dishonest.	SA	A	N	D	SD
2. Poor people are different from the rest of society.	SA	A	N	D	SD
3. Children raised on welfare will never amount to anything.	SA	A	N	D	SD
4. Poor people act differently.	SA	A	N	D	SD
5. Most poor people are dirty.	SA	A	N	D	SD
6. Poor people generally have lower intelligence than nonpoor people.	SA	A	N	D	SD
7. I believe poor people have a different set of values than do other people.	SA	A	N	D	SD
8. Welfare makes people lazy.	SA	A	N	D	SD
9. An able-bodies person collecting welfare is ripping off the system.	SA	A	N	D	SD
10. Unemployed poor people could find jobs if they tried harder.	SA	A	N	D	SD
11. Poor people think they deserve to be supported.	SA	A	N	D	SD
12. Welfare mothers have babies to get more money.	SA	A	N	D	SD
13. Some "poor" people live better than I do, considering all their benefits.	SA	A	N	D	SD
14. There is a lot of fraud among welfare recipients.	SA	A	N	D	SD
15. Benefits for poor people consume a major part of the federal budget.	SA	A	N	D	SD
16. People are poor due to circumstances beyond their control.	SA	A	N	D	SD
17. Society has the responsibility to help poor people.	SA	A	N	D	SD
18. Poor people are discriminated against.	SA	A	N	D	SD
19. People who are poor should not be blamed for their misfortune.	SA	A	N	D	SD
20. If I were poor, I would accept welfare benefits.	SA	A	N	D	SD
21. I would support a program that resulted in higher taxes to support social programs for poor people.	SA	A	N	D	SD

Factor 1 = Personal Deficiency (Questions 1, 2, 3, 4, 5, 6, 7)
Factor 2 = Stigma (Questions 8, 9, 10, 11, 12, 13, 14, 15)
Factor 3 = Structural Perspective (Questions 16, 17 18, 19, 20, 21); The response of these questions should be reversed when they are calculated.

For scoring purposes, use the total sum scores and/or mean scores.

Appendix C: Permission for Survey Use

From: Sung Hyun Yun [mailto:yshhsy@uwindsor.ca]
Sent: Wednesday, July 17, 2019 12:29 PM
To: Beth Mueller <bmueller2@kumc.edu>
Subject: [External] RE: Attitudes Toward Poverty short form

Hi,
I give my permission to use the tool.
Good luck,

Sung Hyun Yun

Sung Hyun Yun, PhD, MSW
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Education is that which discloses to the wise and disguises from the foolish their lack of understanding.
Ambroses Bierce -

From: Beth Mueller <bmueller2@kumc.edu>
Sent: Wednesday, July 17, 2019 10:56 AM
To: Sung Hyun Yun <yshhsy@uwindsor.ca>
Subject: Attitudes Toward Poverty short form

Hi Dr. Yun,
I am working on my dissertation for my PhD in Nursing Education from Walden University.
My dissertation is on implicit bias of professional nurses toward people living in poverty. I plan to measure attitudes toward poverty before and after participation in a poverty simulation and repeat the measurement a month later to determine the impact, if any, on attitudes after the intervention with the simulation.

I was very moved and encouraged by your research and am contacting you for two reasons:

Could I have your permission to use your Attitudes Toward Poverty short form in my research study?
I am having difficulty finding a copy of the actual tool. Could you provide direction on how I can access the tool?

I greatly appreciate your consideration!

Sincerely,
Beth Mueller

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