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Diversity in Community College Registered Nursing Education

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Abstract

The United States is currently facing a shortage of trained professionals in many fields such as Science, Technology, Engineering, and Nursing (Allen-Ramdial & Campbell, 2014; Georgetown University, 2020). As a result, current U.S. nursing student demographics do not mirror the populations they serve (Gooden, Porter, Gonzalez, & Mims, 2001). Research has shown the positive impact a diverse nursing staff has on patient care (Gooden, Porter, Gonzalez, & Mims, 2001). Representative care and cultural awareness translate to better patient outcomes especially for patients from marginalized and underrepresented communities (Woods-Giscombe, Rowsey, Kneipp, Lackey, & Bravo, 2019). Community colleges play a critical role in the supply of registered nurses within the U.S. (Bissett, 1995). For colleges to better address this shortcoming and have a positive effect on patient outcomes, colleges must evaluate current pathway and persistence practices. Additionally, a greater effort must be made to reevaluate application requirements and admissions processes to counter any failings in the current colonial higher education methodologies (Espinosa, 2011; Patel, 2016). The literature indicates two major bottlenecks in diversifying nursing students. First, nursing in the U.S. has historically been perceived as female-dominated profession, and the second bottleneck is the entry requirements and gap in outreach to marginalized and underrepresented (MUR) communities (Aynaci & Gulmez, 2019; Oyana, et al., 2015; Pacquiao, D. (2007). Potential students are often not familiar with what nursing professionals do on a day-to-day basis and can hold a bias towards the field due to negative depictions in pop culture or cultural norms (Hargett, 2019). The second issue is field association and identity, and how that relates to self-efficacy. There are often few role models for MUR students to identify with and to draw inspiration from. Additionally, institutional barriers play a significant role. Such barriers are rooted in the climate and culture of

a college or individual nursing program. For nursing programs and STEM as a whole to increase in diversity and MUR student success, they must periodically reassess their equity diversity and inclusion (EDI) efforts and diversity initiatives. This study aims to evaluate EDI policies and efficacy by comparing nursing student body demographic numbers with faculty interview data. Through this comparison, areas of success and areas for improvement are identified.

Keywords: STEM, Nursing, Community college nursing programs, Diversity in Nursing, Diversity in STEM, Nursing program admission procedures, STEM pathways, Nursing, pathway

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Introduction

As the population of the US continues to diversify, we see an increase of persons of color entering the workforce (Oyana, et al., 2015). The numbers of students of color entering and completing higher education and in particular, the fields of healthcare, science, technology engineering, and math, do not reflect the same ratios as population diversity (United States Census Bureau, 2020; Minority Nurse, 2021) . One reason to seek greater participation by marginalized and underrepresented (MUR) groups is the need for a more representative student body in higher education. The country's growing need to fill high-tech and medical job vacancies is another. Even though our current workforce is sorely lacking in medical field professionals, many educational programs have a diverse pool of candidates but not necessarily the same diversity in graduates. Colleges and universities are simply unable to train students fast enough and graduation numbers do not meet labor force demands particularly in nursing (Georgetown University, 2020). One strategy that many U.S employers have used is to seek talent from other countries such as India, the Philippines, and China using H1B visas (Flores, 2011; Malcolm, 2010; Georgetown University, 2020). To some extent, this diversifies the workforce, but it is only a stopgap and does nothing to address the lack of representative diversity within the U.S. student body. Additionally, in healthcare fields such as nursing, there exist extensive licensure boundaries, often centered around regulations and language, for those who are foreign-trained, to be allowed to work in the U.S. (Gooden, Porter, Gonzalez, & Mims, 2001). Subsequent ethical issues arise from such practices as the recruitment of nurses from countries where the supply does not meet demand (Koller & Buyx, 2013). Few countries, with the exception of some such as the Philippines, graduate more nurses than needed (Georgetown University, 2020).

In 2014, according to the U.S. Census Bureau, individuals that identified as being from ethnic and racial minority groups accounted for more than one third of the U.S. population (38%) (United States Census Bureau, 2020). By the year 2060, white non-Hispanic groups will be the minority at 43.6% of the forecasted U.S population (U.S. Census Bureau, 2015). Nursing must evolve accordingly in order to provide high quality care to a changing population.

The 2017 survey by the National Council of State Boards of Nursing (NCSBN) and The Forum of State Nursing Workforce Centers, states that nurses from minority backgrounds represent 19.2% of the registered nurse (RN) workforce (Rosseter, 2020). The resulting distribution of racial/ethnic backgrounds in the RN population is comprised of 80.8% White/Caucasian, 6.2% Black/African American, 7.5% Asian, 5.3% Hispanic, 0.4% American Indian/Alaskan Native, and 0.5% Native Hawaiian/Pacific Islander (Rosseter, 2020). The remaining nurses are 1.7% Two or more races, and 2.9% labeled as other (Rosseter, 2020).

When looking at the self-identified gender distribution, the survey found that men now account for 9.1% of the RN workforce, which is a modest 1.1% increase since 2015 (Rosseter, 2020). The one area where male identifying nurses have a higher percentage is that of Nurse Anesthetists at 41% (Rosseter, 2020).

In Washington state, as of 2019, according to the United States Census estimates, 32.5% of the population of Washington State are people of color (United States Census Bureau, 2020). In 2015, 17% of the Washington RN survey sample identified with minority groups (Sikma, et al., 2017). The Washington State Nursing Student Diversity Survey further illuminates the ethno-racial makeup to include, 32% of Registered Nurse (RN) to Bachelor of Science in Nursing students (BSN), and 27% of RN Associates Degree in Nursing students (ADN) are from under-represented racial/ethnic groups (Sikma, et al., 2017). The RN ADN program at the center of this

research is located in Pierce County Washington. The distribution of MUR groups in Pierce County is 11.1% Hispanic or Latino, 6.52% Black or African American, 6.6% Asian, 1.45% Native Hawaiian and Other Pacific Islander, 1.18% American Indian and Alaska Native, and 6.87% multiracial non-Hispanic (Deloitte, 2020).

Educational Problem of Practice

Students enrolled in community college nursing programs do not reflect the diversity of the populations the colleges serve nor the demographics of their respective service areas or districts. For colleges to better address this shortcoming and have a positive effect on patient outcomes, reflective evaluation of current pathway and persistence practices must be performed in a meaningful critical manner. The question of why MUR students in higher education do not reflect their same general population percentages is not a simple one and there is no simple solution. Perhaps by asking, what common themes emerge through the current research into this topic and what potential approaches for a given theme have the potential for long-term success, we might at least have a starting point. Once themes emerge, we can then ask, what kind of support do MUR students need to be successful in college STEM fields and in particular, nursing programs.

The college that is the subject of this research has a clearly defined set of application criteria for the registered nursing program. Applications are accepted in two application windows, from June 1-July 1, and Dec. 1-Jan. 7 and are organized into cohorts once accepted (Hernandez Del Cid, personal communication, 2021[1]). Prospective nursing students must meet a set of minimum requirements in order to apply and are then entered into a weighted lottery. The

[1] The rest of this section is noted from my personal communication for the purpose of protecting anonymity of the institution

criteria for application eligibility focus on three academic areas, a minimum GPA of 2.5, and students must have an active Washington State Nursing Assistant Certification (Hernandez Del Cid, personal communication, 2021). Program prerequisite classes are organized into two areas and both must be completed prior to applying to the ADN program (Hernandez Del Cid, personal communication, 2021). These two areas are, factored prerequisites, and non-factored prerequisites. Factored prerequisites must be completed prior to applying to the ADN program and must carry a grade of "B" or higher within two attempts for each of the classes. Failed attempts that are more than five years old can be discarded and replaced with a more recent positive attempt, but this is the only avenue for consideration beyond the two-attempt limit. Non-factored prerequisites must also be completed before applying but carry a minimum "C" grade requirement and there is no stated maximum attempt number.

Table 1.

Factored Prerequisite and Credits	Title	Minimum grade	Attempts
ENGL&101 (5)	English Composition 1	B	2
PSYC&200 (5)	Lifespan Psychology	B	2
CHEM&121 (5) CHEM&161 (5)	Inorganic Chem 1 General Chemistry	B	2
BIOL&260 (5)	General Microbiology	B	2
BIOL&241 (5)	Human Anatomy and Physiology 1	B	2
BIOL&242 (5)	Human Anatomy and Physiology 2	B	2

Note. Adapted from (Hernandez Del Cid, personal communication, 2021)

Table 2.

Non-Factored Prerequisite and Credits	Title	Minimum grade	Attempts
BIOL& 160 (5)	General Cell Biology	C	Undefined
ENGL&102 (5) or ENGL&103 (5) or ENGL&235 (5)	Composition 1 Composition 3 Technical Writing	C	Undefined
PSYC&100 (5)	General Psychology	C	Undefined
CMST&210 (5)	Interpersonal Communication	C	Undefined
NUTR 250 (5)	Nutrition in Healthcare 1	C	Undefined
MATH&146	Introduction to Statistics	C	Undefined
Humanities (5)	From humanities distribution list	C	Undefined

Note. Adapted from (Hernandez Del Cid, personal communication, 2021)

The third academic factors that are considered by this ADN program are the results of the Test of Essential Academic Skills (TEAS) administered by Assessment Technologies Institute (ATI) (Assessment Technologies Institute, 2021). This test, according to ATI, is used by 70% of the nursing programs in the United States (Assessment Technologies Institute, 2021). The nursing program in question has a minimum score of 70% overall for all areas covered by the test. There are four areas covered by the test, Math, Reading, Science, and English. The college requires applicants score at least 72% In Math, 75% in Reading, 63% in Science, and 70% in English, in order to be considered for entry into the registered nurse program. Students are allowed a maximum of two attempts in the year before the application deadline.

The weighted structure of the nursing program grants 40 points to students for meeting the baseline requirements. They can earn 10 points for grades of “A-” or above in each of the

three biology prerequisite classes for a potential total of 30 points. Additionally, they are granted 10 more points for military service. Finally, they can earn 5 points for having taken 15-29 credits at the same college or a maximum of 10 points for 30 or more credits taken at the same college. This results in a total of 90 maximum points possible per applicant for the weighted lottery. There are, however, weighted negative points that can reduce an applicant's chances. Points are reduced by 5 for each retake of BIOL& 241, 242, and 260 that fall within the five-year rule. Once the applicant's points are tabulated, they are entered into the weighted lottery and tracked by lottery ID number. Unsuccessful applicants are not automatically entered into the next lottery and therefore must reapply. Upon completion of the associate's degree in nursing, students must also pass the c. All of these criteria govern entry into the nursing program and constitute both barriers and EDI efforts that have an impact on the diversity of the nursing student body. It was critical to understand this structure to better assess efficacy and shortcomings based on the data collected in this study.

Purpose of the Study

The driving motivation for conducting this research was to evaluate current admissions practices of a community college registered nursing program. This evaluation then served as the basis from which to suggest potential changes to the evaluated practices, based on Social Cognitive Career Theory (SCCT), Social Cognitive Career Choice Model (SCCCM), Social Reproduction Theory (SRT), and Critical Race Theory (CRT). The use of these four theories informed this research and comprise a significant portion of the supporting literature and the resultant theory.

Research Questions

1. What are the admissions practices for selective entry community college Nursing programs?
2. Do the current admissions practices result in ethnographically diverse nursing students?
3. What are the faculty perceptions of EDI admissions practices?

Literature Review

As the United States increases its' reliance on data sciences, engineers, healthcare professionals and all manner of technology-driven fields, the lack of qualified and trained professionals continues to be an area of heightened focus of recruiters and colleges (Oyana, et al., 2015). The academic literature finds current training practices unable to meet the diversity and workforce demands (Katz, Barbosa-Leiker, & Benavides-Vaello, 2016). Much research into STEM field performance has been deficit focused and when dealing with MUR groups, achievement gaps in gatekeeping courses has fueled much of the interest. Colleges have attempted to address such barriers by blanket buzzword approaches of inclusion and equity. In practice, there is rarely adequate investment and maintenance on a pipeline into STEM fields for members of a MUR population to have any lasting effect (Allen-Ramdial & Campbell, 2014; Espinoza, 2011; Amaro, Abriam-Yago, & Yoder, 2006). For some groups of MUR students, the inclusion, or rather exclusion narrative begins in middle and high school (Katz, Barbosa-Leiker, & Benavides-Vaello, 2016). For many MUR students, negative experiences with the sciences begin to shape their ability perception as early as middle school (Collins, 2018; Katz, Barbosa-Leiker, & Benavides-Vaello, 2016). This perception is reinforced in high school through a lack of STEM teachers because just as the workforce suffers from a lack of STEM college majors, so

does secondary education (Hagedorn & Purnamasari, 2012; Malcom, 2010; Wang, 2012). A lack of representative mentors contributes to low numbers of MUR student STEM entry. Students who do not see someone like them in a field, have no relatable point of reference (Hagedorn & Purnamasari, 2012; Ong, Smith, & Ko, 2017). There are however other perspectives, and in recent years as many in higher education have had to rethink current systems. New paths are emerging with regard to MUR group STEM support structures. This newer academic direction gives us a glimmer of hope through thoughtful analysis and identifying where in the academic process exist areas of potential improvement.

Theme 1 STEM Identity

Common themes emerged from a review of the literature. One such theme that is discussed to varying extents is the cart before the horse phenomenon within diversity in STEM research. It challenges the common focus on how to better train for math and science classes by re-centering on student STEM identity (Ramdial & Campbell, 2014; Collins, 2018; Gasiewski, Eagan, Garcia, Hurtado, & Chang, 2012; McCoy, Luedke, & Winkle-Wagner, 2017; Reyes, 2011). This different approach is counter to the comparative model by putting identity and contribution center stage as opposed to simply comparing math and science scores of MUR students to White and Asian students. STEM identity refers to the student's perception of their ability to use STEM skills to become a STEM professional (Rivera, Chen, Blumberg, Flores, & Ponterrotto, 2007). A student's identity and interest are key influences for the value they place on a particular task or discipline.

With regard to nursing, there are additional factors that affect program application and entry. In the U.S., many nursing professionals enter the field through a two-year associate in nursing degree. Such degrees are usually obtained through a community college (National

League for Nursing, 2016). For MUR students attempting to enter or continue their nursing education, many barriers exist that are often overlooked. In the following, I identify some of the barriers to entry and persistence that emerge from the literature.

Community and Culture as a Barrier. One of the primary obstacles that can affect recruitment of MUR students to nursing programs is the perception students and/or their community have regarding the profession (Woods-Giscombe, Rowsey, Kneipp, Lackey, & Bravo, 2019; Gooden, Porter, Gonzalez, & Mims, 2001). The mere fact that nursing is not often thought of as being a STEM field is one that transcends culture and campus. This misconception and the lack of active effort to counter it does nothing to aid in the recruitment of diverse students. Many MUR students who had positive ideas of the nursing field prior to program entry, arrived at those positive notions due to exposure to nursing through a family member or friend (Amaro, Abriam-Yago, & Yoder, 2006; Bleich, MacWilliams, & Schmidt, 2015; Woods-Giscombe, Rowsey, Kneipp, Lackey, & Bravo, 2019). Many still had to challenge cultural stereotypes that often portray the nurse as following behind a doctor waiting for orders, and typically female (Amaro, Abriam-Yago, & Yoder, 2006). Once students enter a nursing program, they still face many obstacles to persistence and success. One such obstacle that can arise is the lack of comraderie through a supportive relatable group (Palmer, Maramba, & Dancy II, 2011). Another is the disconnect between stated MUR support and the culture of an institution (Allen-Ramdial & Campbell, 2014; Bond, Cason, & Baxley, 2015).

Peer support for nursing is discussed throughout the literature covered in this review. Many of the authors argue that peer support forms a critical component of MUR student persistence in STEM fields (Collins, 2018; Gasiewski, Eagan, Garcia, Hurtado, & Chang, 2012; Ong, Smith, & Ko, 2017; Malcom, 2010; Moakler Jr. & Kim, 2014; Palmer, Maramba, & Dancy

II, 2011, Reyes, 2011). The composition of the support peer groups does not necessarily require that members be of the same ethnic or racial background but rather, through intersectionality, be of adequate experiential relevance to have common ground and constitute support. This support reinforces the sense of belonging and, referring back to the above identity framework, supports the emerging identity of future nurses, scientists, engineers, etc. (Collins, 2018; Hargett, 2019). The one area where common primary trait seems to play a greater role in peer support is with self-identified women in the STEM fields (Ong, Smith, & Ko, 2017; Reyes, 2011; Rivera, Chen, Blumberg, Flores, & Ponterrotto, 2007). Within this group, support appears to have the ability to counter some of the tensions that arise from current male dominance in STEM. Within nursing and other traditionally female-dominated professions, the same effect has been noted amongst male nursing students (Aynaci & Gulmez, 2019). Often this support bears fruit through discussions outside of the classroom that are centered on shared experiences and difficulties. It is of particular benefit to students who begin their STEM education in a community college which is for many students the primary means of college entry (Reyes, 2011; Ong, Smith, & Ko, 2017; Wang, 2012). Within the community college environment, many female STEM students from MUR groups find larger peer groups and less competitiveness amongst both males and females (Reyes, 2011; Ong, Smith, & Ko, 2017; Wang, 2012). Conversely, when transitioning to a university, they must again establish a peer support group and often find challenges in doing so because of the climactic differences and propensity for competition (Reyes, 2011). The transition to a university or four-year institution and the accompanying difference in institutional culture leads us to the second common theme.

Theme 2 Persistence

The institutional climate and culture, and their effect on MUR nursing students emerged

as a framework by which they succeed or fail. Issues with institutional culture and climate refer to the often misalignment of the two (Reyes, 2011). In looking deeper at this misalignment, there are many cases in which diversity and inclusion are the institutional culture, but faculty and staff actions and statements contradict the culture and create an unwelcoming climate (Allen-Ramdial & Campbell, 2014; Betz, Smith, & Bui, 2012). Many colleges claim to be committed to increasing faculty and student diversity across the board. Much of those efforts tend to focus on more polarized disciplines such as the sciences and technology (Hagedorn & Purnamasari, 2012). The issue is that often the day-to-day interaction between MUR students and faculty and staff is not one of equity and support (Hagedorn & Purnamasari, 2012; Bond, Cason, & Baxley, 2015). This mixed message confuses students. It sends a message that the college is not invested in the day-to-day support needed to validate their new STEM identity (Allen-Ramdial & Campbell, 2014; Bond, Cason, & Baxley, 2015). Furthermore, it has the potential to further exacerbate career field division and erode trust in the educational system. Color-blind racial ideology attempts to look beyond race but bases achievement and sameness on the comparison with white culture (Collins, 2018). This practice results in an invalidation of identity through the attempted homogenization. This ignores racial diversity and the intersection of cultures and subcultures within the individual student (Collins, 2018; Perna, et al.,2009). The basis for employing color-blind racial ideology is the idea that we are now living in a post-racial society (Collins, 2018). The unfortunate reality of color-blind racial ideology is that it does nothing for the MUR students because it is based on a system designed and controlled by the dominant race and gender (Reyes, 2011; Ong, Smith, & Ko, 2017; Collins, 2018). Color-blind racial ideology further exacerbates the tendency of academic inquiry to focus on what isn't working and what can be done to change MUR student outcomes in STEM rather than on what works. I find that

through this very research, I am complicit in following this negative lens approach. In many nursing programs throughout the U.S., there have been efforts made to open the door to a more representative student body (Bissett, 1995; Katz, Barbosa-Leiker, & Benavides-Vaello, 2016). Many of these efforts however result in a tone-deaf approach that lacks the emotional intelligence needed for meaningful change (Woods-Giscombe, Rowsey, Kneipp, Lackey, & Bravo, 2019; Patel, 2016). Lastly, a lack of interventions tailored to MUR STEM students is found to be an additional barrier when those same students are at risk of completing their intended academic outcome or of changing to a non-STEM discipline (Moakler Jr. & Kim, 2014; Oyana, Garcia, Hawthorne, Haegele, Morgan, Young, 2015).

Frameworks Within the Literature

Three frameworks that formed the basis for much of the literature covered in this report are Critical Race Theory (CRT), Social Cognitive Career Choice Model (SCCCM), which evolved from Social Cognitive Career Theory (SCCT), and Social Reproduction Theory (SRT), (Garriott, 2017; McCoy, Luedke, & Winkle-Wagner, 2017; Moakler Jr. & Kim, 2014; Ong, Smith, & Ko, 2017)Wang, 2013).

Critical Race Theory. Critical Race Theory (CRT) and its' component, Intersectionality Theory, apply a critical lens to issues of race, power, legal and social structures in order to expose current and historical racist institutional practices (Bell, 1995; Solórzano 1997; Ong, Smith, & Ko, 2017). Intersectionality seeks to acknowledge the complexity of individual students and expose the multifaceted dynamics of intersecting oppressions and privileges (Bell, 1995; Solórzano 1997; Ong, Smith, & Ko, 2017). Through the use of this framework, researchers attempt to allow the participants a greater subjective voice to permeate their body of work (Ong, Smith, & Ko, 2017). By incorporating a CRT framework, I attempt to better understand the MUR

student experience with STEM classes in the context of registered Nursing program prerequisites.

Social Cognitive Career Choice Model. Social Cognitive Career Choice Model (SCCCM) is derived from Social Cognitive Career Theory (SCCT) and focuses on the background of the learner as well as their self-efficacy, expected outcomes and personal experience (Moakler Jr. & Kim, 2014). Social Cognitive Career Theory focuses on the exchange relationships between the learner and colleges, faculty, peers, etc., and how they affect career choice and success (Moakler Jr. & Kim, 2014).

Within the research, SCCCM was used as a basis to form individual learner background context (Moakler Jr. & Kim, 2014). Although not implicitly labeled, SCCCM uses the intersectionality of traits, such as gender, parental socioeconomic status, GPA, and SAT scores to gauge self-efficacy with the STEM fields in college (Moakler Jr. & Kim, 2014; Wang, 2013). Additionally, math and overall academic confidence, as well as parental educational level and career choice, were also considered as critical information within the SCCCM framework (Moakler Jr. & Kim, 2014; Wang, 2013).

One major bias of the research that uses the SCCCM framework is the assumption of STEM field interest. This assumption isolates research participants and forces focus onto students already interested in STEM major areas of study. Although useful for research into persistence, the articles surveyed that follow this framework do little to expose failures in expanded MUR STEM career adoption.

Social Reproduction Theory. Social Reproduction Theory has four key concepts (McCoy, Luedke, & Winkle-Wagner, 2017). Those concepts are social capital, cultural capital,

habitus, and field, and can be, according to the framework, transformed or transferred from one generation to the next (McCoy, Luedke, & Winkle-Wagner, 2017).

Social capital refers to the particular relationships and more importantly the rules of exchange within those relationships as they relate to a particular field (McCoy, Luedke, & Winkle-Wagner, 2017). For example, the rules for relationships between students and professors in a graduate nursing program might follow different protocols than those between undergraduate art students and advisors.

Cultural capital, within the SRT framework, is the summation of skills, knowledge, and abilities that are rewarded within a particular cultural context (McCoy, Luedke, & Winkle-Wagner, 2017). Such capital is often seen within the 'geek' culture in computer science and information technology where a certain degree of credibility is afforded to those who possess capital that constitutes 'geekiness'. Again, just as is the case with social capital, cultural capital is field specific. Habitus are the sets of accepted actions that an individual may take as field specific opportunities and events occur (McCoy, Luedke, & Winkle-Wagner, 2017).

The four concepts were each incorporated into the research by looking at what role they each play in affecting MUR student field choice. In many cases, a lack of any of the first three as they relate to a particular field would result in persistence challenges for an MUR student (McCoy, Luedke, & Winkle-Wagner, 2017). Of particular note is the resulting lack of social capital that resulted from negative interactions between MUR students and STEM faculty (Espinosa, 2011; McCoy, Luedke, & Winkle-Wagner, 2017; Flores, 2011; Collins, 2018). Such negative reactions are often attributed to the individual MUR student feeling weeded out from a particular academic program (McCoy, Luedke, & Winkle-Wagner, 2017).

The literature sheds light on the dilemma of focusing on MUR STEM student achievement gaps when compared to the dominant field groups. To counter this dilemma and focus on positive strategies action must be taken. Colleges should invest in such efforts as the creation of support structures within the institutions that are tailored to the positive reinforcement of STEM identity. They can accomplish this by creating safe spaces for MUR students and groups of students and hiring faculty the reflects the diversity of the population they wish to serve. The issue is that in order to support MUR groups, one must challenge the current colonial academic systems while still operating as it's agent. The current language of academia forms part of the western European-based colonial system (Patel, 2016; Smith, 2012). Efforts to decolonize the research process and higher education as a whole are plagued by the fact that to gain credibility, academics must first comply with the colonial educational structure (Patel, 2016). Efforts to create sustainable change to the pathways and barriers for MUR STEM students, even when focused on positive outcomes and practices, must also comply with colonized academic structures (Collins, 2018; Smith, 2012). Challenging the very system in which a researcher works can have severe career repercussions for an academic wishing to shed light on an oppressive system. Researchers must still attain credentials through an oppressive colonial system, research and publish using White Anglo-centric norms and publications and argue that it is in the best interest of all parties to enact non-traditional MUR student success policies (Ghosh-Dastidar & Liou-Mark, 2014; Ong, Smith, & Ko, 2017).

In nursing, there has been a body of research that validates the perceived positive patient care impact of diversified staff (Gooden, Porter, Gonzalez, & Mims, 2001). At issue is the continual lack of diversity within the nursing student bodies and the subsequent low numbers of MUR nursing student graduations and licensures (Woods-Giscombe, Rowsey, Kneipp, Lackey,

& Bravo, 2019). Effort must be made to dig deeper into the social-emotional perceptions of nursing within the various MUR communities to create opportunities for a broader set of potential nursing students (Wang, 2013; Woods-Giscombe, Rowsey, Kneipp, Lackey, & Bravo, 2019; Bleich, MacWilliams, & Schmidt, 2015). Additionally, a greater effort must be made to reevaluate admission requirements and processes to counter the currently failing colonial methodologies (Espinosa, 2011; Patel, 2016).

Lastly, the narrative must change. In other words, nursing must be appropriately labeled as a STEM field and given the respect it deserves (Hargett, 2019; Katz, Barbosa-Leiker, & Benavides-Vaello, 2016). It must also be seen, through appropriate faculty recruitment, as a field accessible to all groups (Hargett, 2019; McCoy, Luedke, & Winkle-Wagner, 2017). Identity with the STEM field of choice is critical for students in higher education and nursing is no different, and few fields have such strong stereotypes (Woods-Giscombe, Rowsey, Kneipp, Lackey, & Bravo, 2019).

Methods

The research methods are guided by the need to explore equity barriers in nursing programs at community colleges. Many community colleges throughout the US have associate degree nursing programs to answer the steady workforce demand. The field of nursing is however not demographically reflective of the populations they serve (Gooden, Porter, Gonzalez, & Mims, 2001). As a result, many colleges have taken notice and attempt to reduce the inequity by actively seeking to diversify the student body accepted into their respective nursing programs. I focused on the associate's degree in nursing (ADN) at a community college in western Washington state. This college was selected due to ease of access and because it has a long running registered nursing program. I, the researcher, currently teach at said community college

but I am not a member of the nursing faculty. As of the writing of this dissertation, I teach in and am the chair of an information technology program and thus have no influence over any healthcare training at the college. The purpose of this research study was to explore the current approach to issues of equity and diversity within the nursing program admissions process, to find the ethnographic, age, and gender distribution of nursing students in the two most recent academic years, and to compare those numbers with the perceptions of the relevant nursing program staff members.

Research Design

The design for this applied dissertation is mixed methods. It began with the collection of quantitative data obtained from the college's institutional research department. It is supplemented with internal data from the nursing program. I then collected qualitative data through one-on-one interviews wih members of the nursing program applicant screening/admissions committee and faculty. Because this research was conducted during the COVID 19 pandemic, all communication with participants was through electronic modes such as email and the synchronous meeting platform Zoom.

Rationale. The reason to use mixed methods was to better investigate the impact, effectiveness, and gaps in the current EDI efforts for admissions to the nursing program. Neither quantitative nor qualitative data alone would provide enough information to perform any meaningful analysis. Furthermore, any suggestions would be ineffective at best if not backed up by both types of data. It was imperative to conduct interviews and compare and contrast perception with the numeric distribution of MUR ADN students.

Data Collection and Analysis. The research was designed to explore the distribution of students from marginalized and underrepresented groups within the nursing student body and

compare them to the current population of the corresponding county as well as the whole college. This information was then compared to interview data collected from Nursing program faculty. Prior to data collection, a certificate of exemption was provided by the University of Washington (UW) IRB. This was done after tge submission of the study parameters to UW IRB. Quantitative data was collected from the college office of institutional research (IR) on students who had nursing listed as their major area of study during the academic years spanning 2018-19 and 2019-20. The data was de-identified before I was granted access and is not attributable to any one individual student. There was an assumption that all applicants would have applied to the nursing program of their own free will, and not have been pressured in any form. A secondary assumption occurred that assumed the years covered were representative of typical recent academic years. Additionally, quantitative data, covering the same timeframe and collected by the nursing program itself was provided by the program leadership. This constitutes a secondary, more localized query of nursing student demographics.

Data collection began in late Fall 2020. This was in response to the scheduled availability of the screening committee members and continued into Winter of 2021. I, the researcher, used the predefined ethnographic categories of the institutional research department since that is the best way to measure the efficacy of the college's approach. The categories included race, ethnicity, gender, veteran status, age and geographic location.

Primary data was collected through interviews conducted via Zoom and using the internal transcription functionality of Zoom software for all participants who agreed to be recorded. The interviews and corresponding survey questions were given to the staff responsible for the screening and selection of nursing program candidates. It was in the form of open-ended questions and Likert-type scale questions which focused on their perception of the current

admissions practices for MUR registered nursing students. The consent form used for these interviews can be found in appendix A. The interview recording data was transcribed electronically. I then manually coded the transcribed data. Coding of responses allowed the organization of data by question response and the illumination of any common themes and outliers between transcribed interview data. Once the results were compiled and analyzed, I used both sets of data, the qualitative and the quantitative, to investigate the efficacy of the current screening and acceptance practices with regards to EDI and MUR student representation, and expose any correlation or deviation from emerging qualitative themes. This then informed my conclusions and suggestions for further modifications to the current EDI strategies for registered nursing student admission practices at the college surveyed.

Setting and Sample. The setting for my research is a community college in western Washington State. Data collection took place in the Fall of 2020. I used the currently registered nurse program as my program of focus. My data collection was conducted remotely using the IR portal and web conferencing software. Criteria for quantitative data collected from the institutional research department was that of only nursing students from the previous two academic years. The reason is that college leadership turnover as well as policy changes would potentially skew the results since anything older than 18 months would not be reflective of current practices. Additionally, criteria for student classification in an MUR group would be based on the existing categories as defined by the institutional research department and rely on current self-reporting or other demographic data collection processes used by the college. In conducting this research, I did not inject any additional classification criteria in order to best preserve current practices. This served the purpose of allowing me to identify any classification gaps.

The qualitative data collection occurred remotely via Zoom in keeping with COVID-19 social distancing protocols. It was conducted by myself, with the nursing program screening committee as well as program faculty, and would consist of 8 participants. The participants were all over 40 years of age at the time of data collection, and all possessed at least a bachelor's degree. The sample size was limited by all willing participants from the screening committee as well as willing faculty members. The interviews were held one on one and with consent, they were recorded using the internal recording function of the Zoom software. Transcription of the interviews was accomplished through the use of the live transcription functionality within the Zoom software. The interviews consisted of six open-ended questions (Appendix B) on the topic of EDI effort efficacy in the current admissions and screening criteria for prospective nursing students as well as three questions that used a Likert-like scale.

Variables. The quantitative variables of interest were the number of students in each ethnographic, age, and gender group, for the county, college, and Nursing program. These data were drawn from census data, the Institutional Research department of the college, as well as data collected internally by the ADN staff. The qualitative variables of interest were the resulting themes from ADN program faculty interviews.

Data Analysis Plan. The data were described using means and standard deviations. Triangulation was used whenever possible to further ensure validity. The survey data were transcribed first by the Zoom live transcript function and then manually entered into the coding tool. This allowed for transcripts to be reconciled with the audio recordings for each interview. Finally, the two types of data were compared to determine current practice perceived efficacy with the actual quantitative distribution of MUR nursing students.

Feasibility. The time constraints that occurred due to the pandemic affected the interview scheduling due to the need to coordinate with the various committee members while they were working primarily remotely.

There were no anticipated costs above $110 for the Nvivo software which I chose to forgo and instead manually track and code the interview data. This took into account the requisite digital literacy of the current nursing program applicant screening committee members.

Outreach to the screening committee and the institutional research department had already occurred early in the brainstorming phase of this investigation and as a result, there was no forecasted issue with cooperation from either group. Both have an interest in the outcomes of this research and anticipate using it to further EDI policies for campus selective entry programs.

Considering that the I am not a member of the nursing department nor any healthcare program at the college, no conflict of interest or ethical issues exist. Interaction with the subjects during data collection or analysis and the results of the research will have no bearing on the future status or employment of neither myself nor participants.

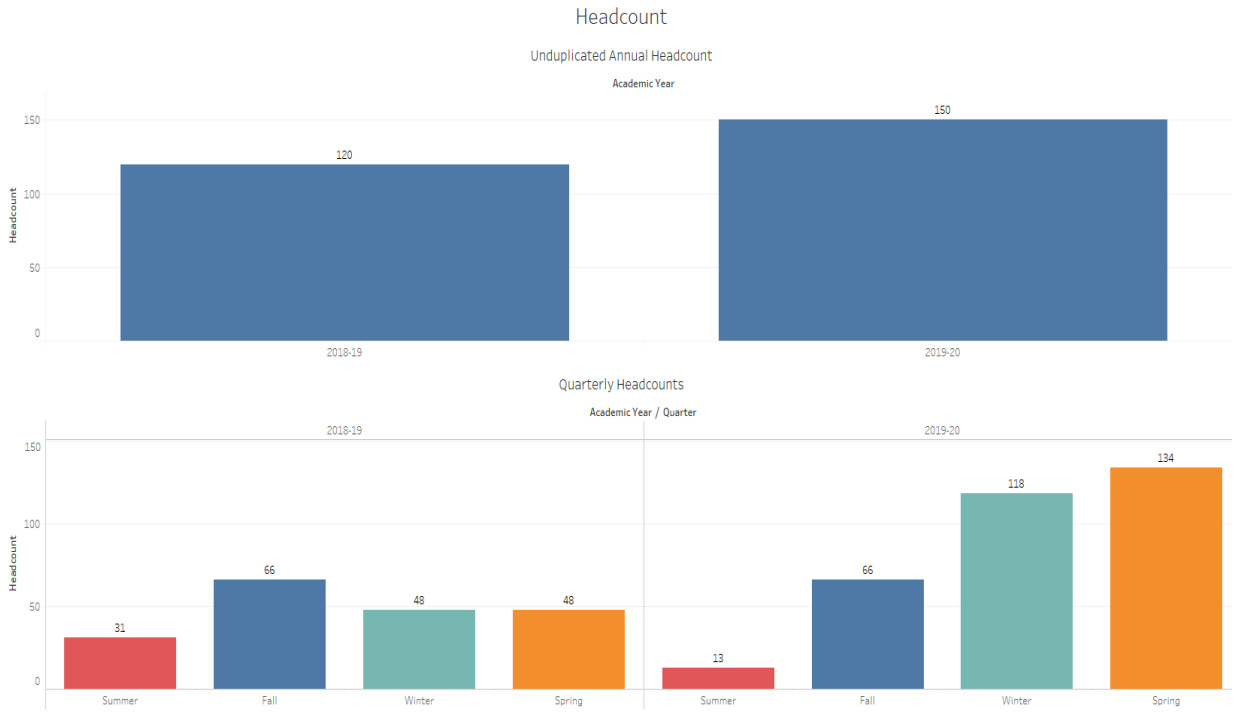
Quantitative Data Analysis

The demographic data collected from the college's institutional research department spans the academic years, 2018-2019, and 2019-2020. Data were retrieved via the college's internal website maintained by the institutional research department. In using this tool, I searched for data that corresponded to students who were internally coded in either of two academic plan stacks (Hernandez Del Cid, personal communication, 2021). This was due to the retiring of an older plan stack code of which some recently graduating students would otherwise be excluded from the data collection. I was advised of this transition by the current Associate Dean of Nursing at the college. Data is grouped into 5 major categories within this tool: Overall

Headcount, Gender & Age, Ethnicity & Need-Based Aid, Veterans & International, and Zip Code Map. Within each of these top-level groupings, a myriad of additional data sets can be seen. In this section, we look at the first four of those categories. Geographic distribution will be addressed later in this document.

In looking at the first dataset, we see an increase of thirty students overall within the nursing program from the 2018-19 and 2019-20 academic years as per table 3.

Table 3.



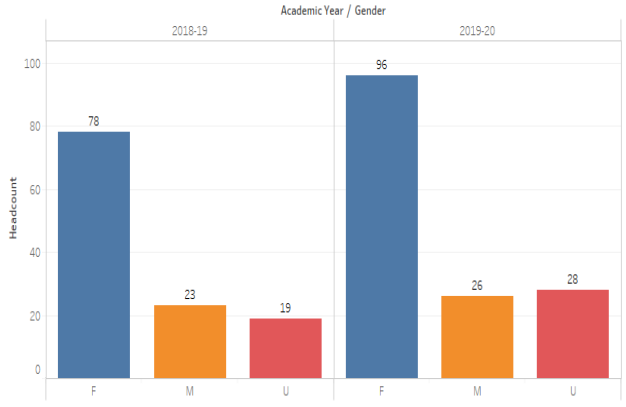
Note. Reprinted from (Hernandez Del Cid, personal communication, 2020)

In the next dataset, distribution by gender and age is illustrated. The data shows a significant disparity between female and male as well as unreported gender identities. This is not unexpected as the field of nursing within the U.S. continues to be female dominant (Minority Nurse, 2021). In this case female students comprise 65% (*n*=120) for the 18-19 year, and 64% (*n*=150) for the 19-20 academic year of the total nursing student body as per table 4.

Additionally, when we look at the age ranges of the students, a picture begins to form. The data indicate that an overwhelming majority of students from both academic years are between the ages of 20-39. In the 2018-19 group 78.3% are between the ages of 20 and 39 with 35.8% of the overall total having ages from 20-29 years. In the second group from 2019-2020, 83.3% (*n*=150) are 20-39 years of age and from that 45.3% (*n*=150) of the total students are between the ages of 20-29.

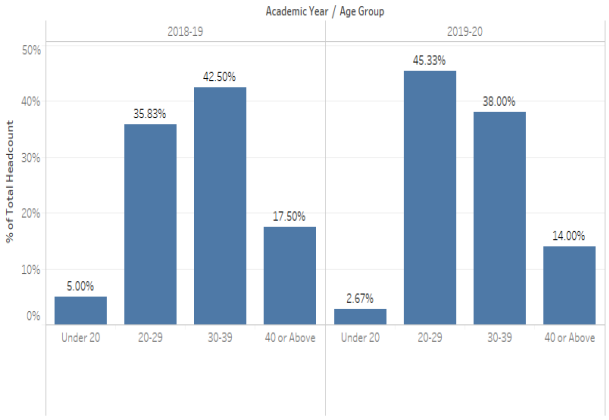
Table 4.

Gender & Age



Gender		Academic Year 2018-19	2019-20
F	Headcount	78.00	96.00
	% of Total Headcount along Table (Down)	65.0%	64.0%
M	Headcount	23.00	26.00
	% of Total Headcount along Table (Down)	19.2%	17.3%
U	Headcount	19.00	28.00
	% of Total Headcount along Table (Down)	15.8%	18.7%

Age Group		Academic Year 2018-19	2019-20
Under 20	Headcount	6.00	4.00
	% of Headcount	5.0%	2.7%
20-29	Headcount	43.00	68.00
	% of Headcount	35.8%	45.3%
30-39	Headcount	51.00	57.00
	% of Headcount	42.5%	38.0%
40 or Above	Headcount	21.00	21.00
	% of Headcount	17.5%	14.0%

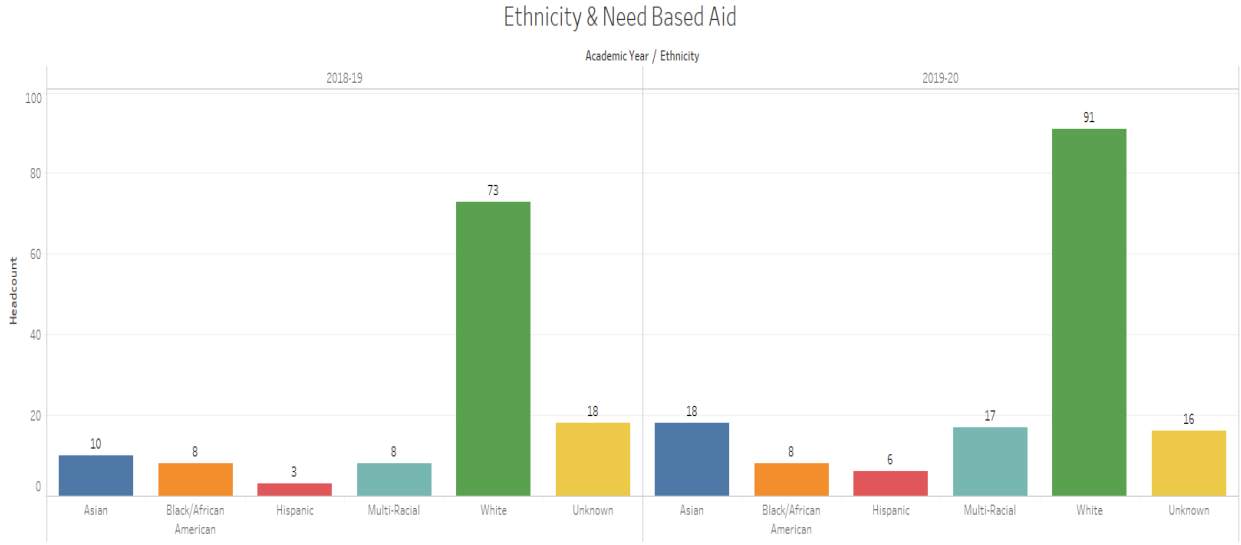


Note. Reprinted from (Hernandez Del Cid, personal communication, 2020)

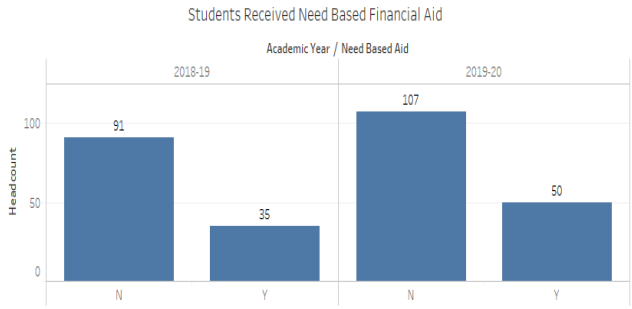
The third data group is comprised of ethnicity and need-based aid. From here emerged some critical information that speaks directly to the purpose of this research. In table 5 we see the ethnographic groupings that are used by the college's institutional research department. These groups consist of Asian, Black/African American, Hispanic, Multi-Racial, White, and unknown.

In the first group, white identifying students consist of 73 students which amount to 60.8% (*n*=120) of the total. Asian students consist of 8.3%, Black/African American is 6.7%, Hispanic is 2.5%, multi-racial is 6.7%, and unknown is 15%. In the 2019-20 academic year, those numbers did not change much. For 2019-20, the distribution was as follows; White 60.7% (*n*=150), Asian 12%, Multi-Racial 11.3%, unknown 10.7%, Black/African American 5.3%, and Hispanic 4% of the total nursing student body for that year.

Table 5.



Ethnicity	Academic Year 2018-19 Headcount	2018-19 % of Total Headcount ..	2019-20 Headcount	2019-20 % of Total Headcount ..
Asian	10.00	8.3%	18.00	12.0%
Black/African American	8.00	6.7%	8.00	5.3%
Hispanic	3.00	2.5%	6.00	4.0%
Multi-Racial	8.00	6.7%	17.00	11.3%
White	73.00	60.8%	91.00	60.7%
Unknown	18.00	15.0%	16.00	10.7%



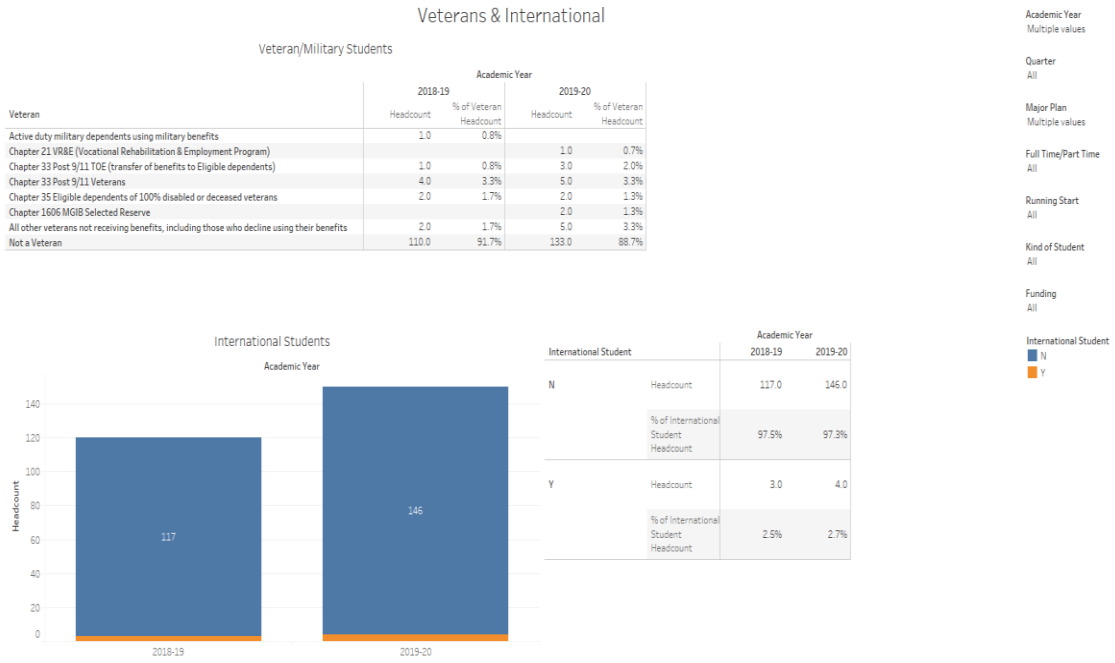
Note. Reprinted from (Hernandez Del Cid, personal communication, 2020)

The next tabulation, within this same table, shows the number of students receiving need-based financial aid. Need-based financial is loosely defined as college financial aid either through grants, work study or other forms that is awarded based on the student's financial

situation (Washington Student Achievement Council, 2021). This is by definition aid that goes to students of lower economic means which typically affects MUR students at a higher rate than their white counterparts (Washington State Department of Health, 2016). For the 2018-19 academic year, 91 out of 120 students, or 72% (*n*=120) of students in the nursing program, did not receive need based financial aid. This does not necessarily mean they all paid tuition out of pocket but rather that they had access to other forms of education funding. For the 2019-20 academic year, 107 of 150 total students did not use need-based aid. This translates to 68% (*n*=150) of the total nursing students for that year.

In table 6 we see the data pertaining to veterans and veteran benefit recipients within the nursing program as well as international students.

Table 6.

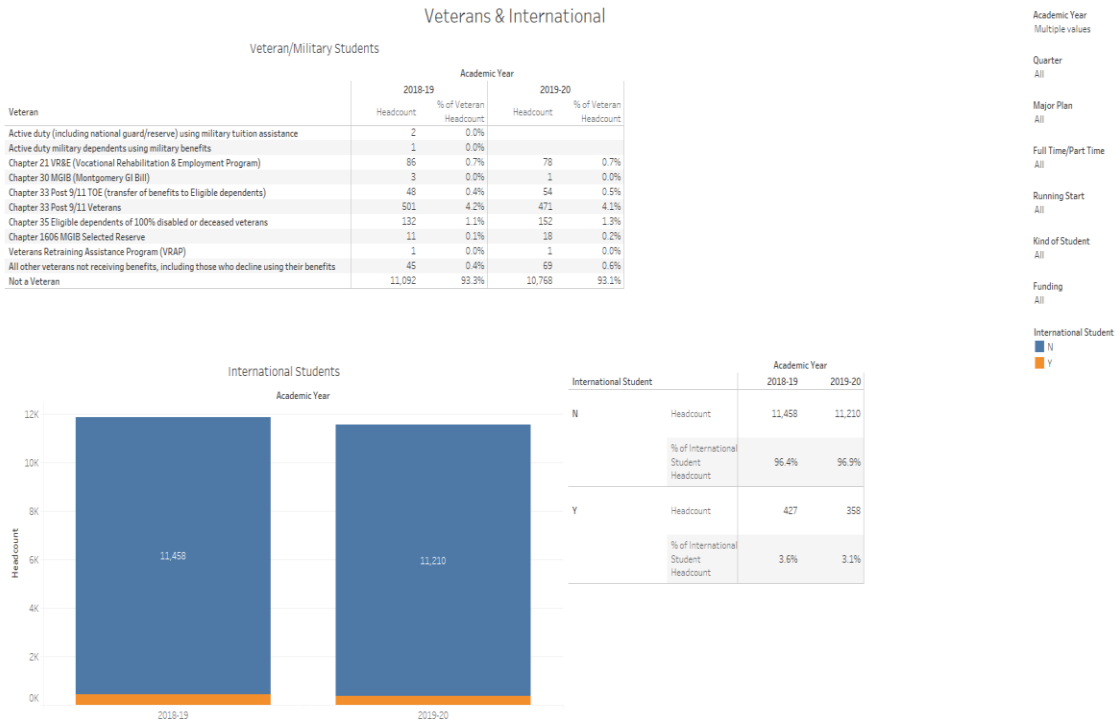


Note. Reprinted from (Hernandez Del Cid, personal communication, 2020)

In the 2018-19 group, there were 10 total veterans including two that did not use their benefits for the nursing degree. In 2019-2020 that number grew to 18 with five of those not using

their veterans' benefits. The percentages of veteran students in each group were 8% (*n*=120-) and 11.5% (*n*=150) respectively. International students account for three and four students or 2.5% (*n*=120) and 2.7% (*n*=150) of nursing students for each of the two years surveyed.

Table 7.

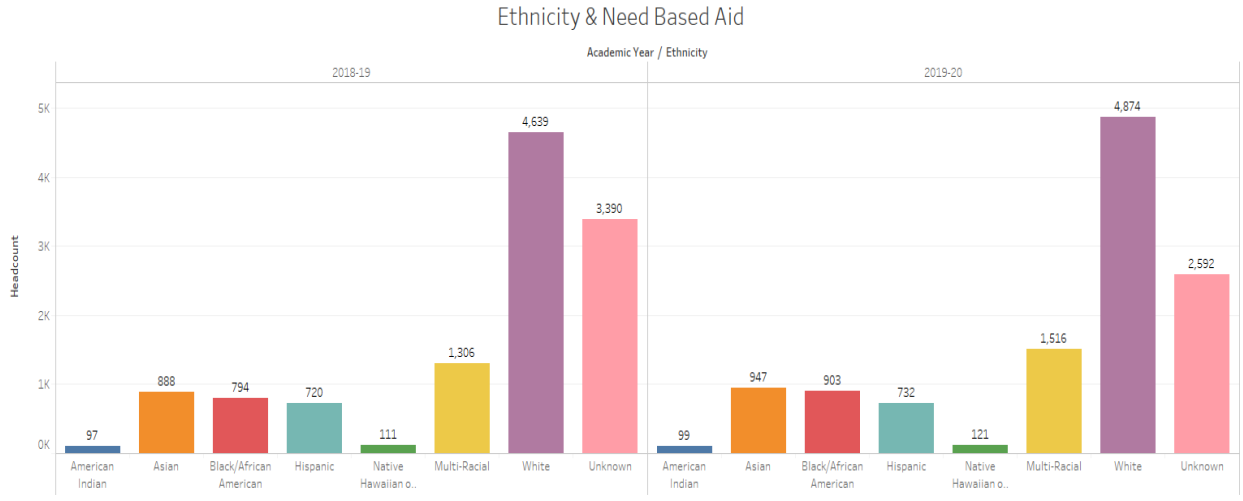


Note. Reprinted from (Hernandez Del Cid, personal communication, 2020)

Table five shows the overall total of veteran and international students for the college across all disciplines. In this table, 7.5% (*n*=11885) of all students in the 2018-19 year and, 7.8% (*n*=11568) of students for 2019-20 were veterans or eligible for veteran benefits. International students consisted of 3.6% and 3.1% of total students for that range of years. What this information tells us is that the nursing program for 2018-2020 had a slightly higher percentage of veteran benefit eligible students than the college average and only a marginal difference of international students.

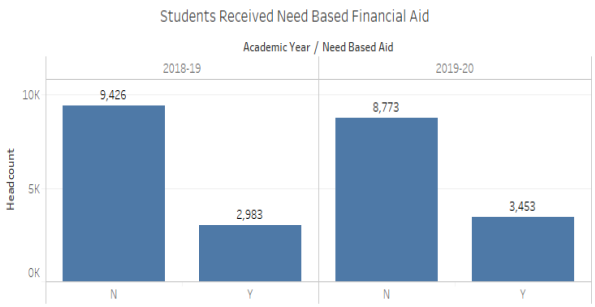
When looking at the data for ethnicity and need-based aid for the college, we see the following distribution across all disciplines; for 2018-19 the student makeup was, 39% (N=11458) White, 28.5% Unknown, 11% Multi-Racial, 7.5% Asian, 6.7% Black/African American, 6.1% Hispanic, 0.9% Native Hawaiian or Other Pacific Islander, and 0.8% American Indian. For the 2019-2020 academic years those numbers were 42.1% (N=11210) White, 22.4% Unknown, 13.1% Multi-Racial, 8.2% Asian, 7.8% Black/African American, 6.3% Hispanic, 1% Native Hawaiian or Other Pacific Islander, and 0.9% American Indian.

Table 8.



Academic Year

Ethnicity	2018-19 Headcount	2018-19 % of Total Headcount ..	2019-20 Headcount	2019-20 % of Total Headcount ..
American Indian	97	0.8%	99	0.9%
Asian	888	7.5%	947	8.2%
Black/African American	794	6.7%	903	7.8%
Hispanic	720	6.1%	732	6.3%
Native Hawaiian or Other Pacific Islander	111	0.9%	121	1.0%
Multi-Racial	1,306	11.0%	1,516	13.1%
White	4,639	39.0%	4,874	42.1%
Unknown	3,390	28.5%	2,592	22.4%



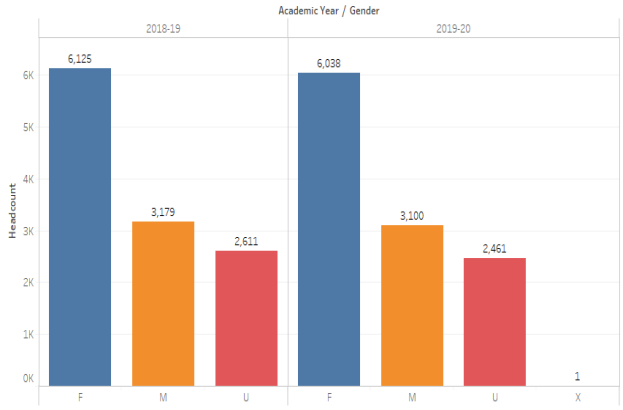
Note. Reprinted from (Hernandez Del Cid, personal communication, 2020)

Lastly, we will look at gender and age data for the entire college for the years surveyed. For the two years covered in this study, the student distribution was 51.5% (N=11458) female, 26.8% male, and 22% unreported for 2018-19, and 52.2% female, 26.8% male, and 21.3%

unreported 2019-20. The age distribution was 44.42% aged 20-29, 22.34% under 20, 20.32% aged 40 or above, and 19.09% aged 30-39, for the 2018-19 academic year. For 2019-20 this age distribution was 45.02% (N=11210) aged 20-29, 19.83% aged 40 or above, 18.99% aged 30-39, and 18.23% under the age of 20.

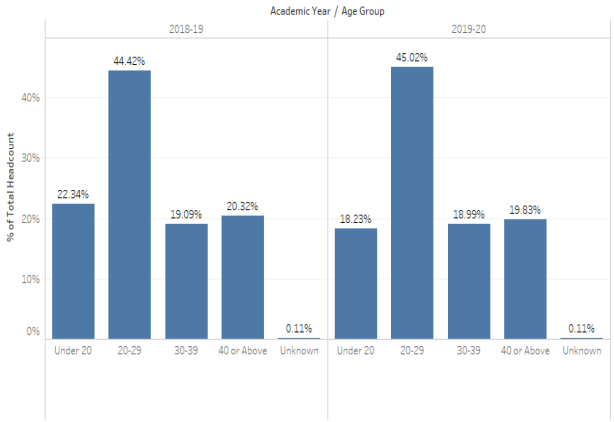
Table 9.

Gender & Age



Gender		Academic Year 2018-19	2019-20
F	Headcount	6,125	6,038
	% of Total Headcount along Table (Down)	51.5%	52.2%
M	Headcount	3,179	3,100
	% of Total Headcount along Table (Down)	26.8%	26.8%
U	Headcount	2,611	2,461
	% of Total Headcount along Table (Down)	22.0%	21.3%
X	Headcount		1
	% of Total Headcount along Table (Down)		0.0%

Age Group		Academic Year 2018-19	2019-20
Under 20	Headcount	2,655	2,109
	% of Headcount	22.3%	18.2%
20-29	Headcount	5,278	5,207
	% of Headcount	44.4%	45.0%
30-39	Headcount	2,269	2,196
	% of Headcount	19.1%	19.0%
40 or Above	Headcount	2,415	2,293
	% of Headcount	20.3%	19.8%
Unknown	Headcount	13	13
	% of Headcount	0.1%	0.1%



Note. Reprinted from (Hernandez Del Cid, personal communication, 2020)

The nursing program collects much of the same data internally. The methods for this data collection were not available at the time of this writing. Table 10 shows the same ethnographic data metrics as used by the institutional research department of the college but with the internal nursing department results. The data covers the same academic years of 2018-2019, and 2019-2020, as the IR department data.

Table 10.

Race	**2019-20**	**2018-19**
American Indian/Alaskan Native	1%	0%
Asian	11%	12%
Black/African American	3%	1%
Native Hawaiian/Pacific Islander	4%	4%
White Caucasian	66%	68%
Hispanic/Latino	6%	7%
Mixed Race	8%	7%
Missing/Unknown	0%	0%
Ages	**2019-20**	**2018-19**
17-20	4%	4%
21-25	24%	20%
26-30	26%	27%
31-40	35%	37%
41-50	10%	11%
51-60	2%	2%
61+	0%	0%
Gender	**2019-20**	**2018-19**
Female	81%	**85%**
Male	19%	**15%**
Other/Unknown	0%	**0%**

Note. Reprinted from (Hernandez Del Cid, personal communication, 2021)

Quantitative Data Discussion

When we look at all of the quantitative data together for each year surveyed, we see a difference between internal nursing program and IR data. For 2018-19, there were 3.7% more Asian identifying students according to internal Nursing program data collection than reported

by institutional research. Black and African American nursing students, conversely, appear to be overreported by IR at 6.7% versus 1% by internal nursing program data. According to the internal nursing department data, there were 4.5% more Hispanic nursing students than reported by the college Institutional Research department. Native Hawaiian /Pacific Islander changes from zero to 4% when using the internal department data, and White identifying students show a difference of 7.2%. American Indian/ Alaskan Native was not shown to be represented in the nursing program by either IR or internal data and is by far the least represented group amongst the defined ethnographic categories. Lastly, the category of multi-racial only shows a nominal difference of 0.3%, and unknown racial categorization drops from 15% in IR data reporting to zero at the departmental level.

Table 11.

Year 2018-19	Nursing Internal Data	Institutional Research Data	IR Whole College Data
Race			
American Indian	0	No value listed	0.8%
Asian	12%	8.3%	7.5%
Black/African American	1%	6.7%	6.7%
Hispanic	7%	2.5%	6.1%
Native Hawaiian/ Other Pacific Islander	4%	No value listed	0.9%
Multi-Racial	7%	6.7%	11%
White	68%	60.8%	39%
Unknown	0	15%	28.5%

Note. Adapted from (Hernandez Del Cid, personal communication, 2021)

Table 12.

Year 2019-20	Nursing Internal Data	Institutional Research Data	IR Whole College Data
Race			
American Indian	1%	No value listed	0.9%
Asian	11%	12%	8.2%
Black/African American	3%	5.3%	7.8%
Hispanic	6%	4%	6.3%
Native Hawaiian/ Other Pacific Islander	4%	No value listed	1%
Multi-Racial	8%	11.3%	8.2%
White	66%	60.7%	42.1%
Unknown	0	10.7%	22.4%

Note. Adapted from (Hernandez Del Cid, personal communication, 2021)

In table 12 we see the 2019-2020 academic year data for all reporting sets. In this academic year, we see 1% more Asian identifying students according to internal Nursing program data collection than reported by institutional research. Black and African American nursing students again appear to be overreported by 2.3% per institutional research when compared with internal nursing department data as shown in Table 12. The internal nursing department data reported 2% more Hispanic students than the institutional research department as shown in Table 12. Native Hawaiian /Pacific Islander reporting stayed the same for this year at 4% when using the internal department data with IR not reporting any nursing students from that group as shown in table 11. IR also did not report any American Indian/Alaskan Native students

versus 1% reported by internal data. White identifying students show a difference of 5.3% as shown in table 12. Multi-racial showed a difference of 3.3% with the internal department reporting the lower number as compared to IR and, unknown racial categorization drops from 10.7% in IR data reporting to zero at the departmental level as shown in table 12.

Now we will look at the age of students for the years covered by this investigation. Internally, the nursing program has more age groups than those used by the institutional research department. In the table below, we see both of these data groupings and their respective reporting percentages. Minor differences are visible between the department and IR age data for both academic years. There are, however, notable differences when compared to the entire college student age distribution. Across all college programs, there is a higher percentage of students in the under 20 age group as compared to nursing. In 2018-19 there was 22.3% versus 4-5% for nursing and in 2019-20 the trend continues with 18.2% of all students falling into that age range versus 2.7-4% as per table 13. This would imply, at first glance, that nursing students' trend slightly higher in age than the rest of the college. If we look deeper, we see that there is also an age ceiling for most of the nursing students. This is due to the college-wide student body ranging from 19.8% to 20.3% versus 12%-13% of students who were over the age of 40 for the years surveyed as per table 13. Overall, the bulk of nursing students come from the age group ranging from 21-40, and for 2018-19, internal nursing data indicates 84% of students were from that age range as per table 13. IR data indicates 78.3% are from the 21-40 age range and that same group comprised 63.5% of the total college student body as per table 13. The following academic year was very similar with nursing data at 85%, IR at 83.3%, and college-wide at 64% of students falling in between the ages of 21-40 as per table 13.

Table 13.

Nursing Age Brackets	Nursing program data	IR Age Brackets	IR data	College-wide data
2018-19				
17-20	4%	Under 20	5%	22.3%
21-25	20%	20-29	35.8%	44.4%
26-30	27%			
31-40	37%	30-39	42.5%	19.1%
41-50	11%	40 and above	17.6%	20.3%
51-60	2%			
61+	0%			

Note. Adapted from (Hernandez Del Cid, personal communication, 2021)

Table 14.

Nursing Age Brackets	Nursing program data	IR Age Brackets	IR data	College-wide data
2019-20				
17-20	4%	Under 20	2.7%	18.2%
21-25	24%	20-29	45.3%	45%
26-30	26%			
31-40	35%	30-39	38%	19%
41-50	10%	40 and above	14%	19.8%
51-60	2%			
61+	0%			

Note. Adapted from (Hernandez Del Cid, personal communication, 2021)

The last data group from the quantitative portion is that of gender. The data shows a slight difference between the data collected internally by the nursing program and the data

collected by the institutional research department. What is interesting about the difference between these two data sources is that IR data shows a decrease in male student from the 2018-19 year to the 2019-20 years whereas the internal program data shows an increase in male nursing students in that same timeframe (Hernandez Del Cid, personal communication, 2021). This could potentially be due to the number of students counted in the category of Other/U by IR. According to the internal program data, all students from the surveyed academic years chose either male or female for their respective gender identity.

When we take the previous two datasets for nursing student gender identity and compare it with the overall college numbers, we see that the nursing program is more female-identifying dominant. If we take the average between the internal data and IR data for each academic year, we arrive at 75% female students in 2018-19 and 72.5% female for 2019-20 as per tables 13 and 14. Subtracting the female reporting student's college-wide for each corresponding year leaves us with a difference of 23.5% for 2018-19 and 20.3% for 2019-20. From this we can determine that for the years surveyed, the nursing program student body of this college was more female-identifying dominant than the overall student body of the college. This is not surprising given that common knowledge, and a review of the literature affirms that the field of nursing in the United States is female-dominated (Minority Nurse, 2021; Aynaci & Gulmez, 2019). The data also suggests a slight decrease in that gender ratio gap consistent with the loosely stated goals of the program EDI efforts.

Table 15.

Nursing program	2018-19	2019-20
Male	15%	19%
Female	85%	81%

Table 15. (continued)

Other/U	0	0
IR		
Male	19.2%	17.3%
Female	65%	64%
Other/U	15.8%	18.7%
College-wide		
Male	26.8%	26.8%
Female	51.5%	52.2%
Other/U	22%	21.3%

Note. Adapted from (Hernandez Del Cid, personal communication, 2021)

All of the data together paints a picture that follows conventional wisdom when applied to community college registered nurse programs nationally. Like many other such programs nationally, the studied ADN program student body is primarily white, female, and between the ages of 21 and 40. The differences in data reported between the ADN program itself and that of the college's own institutional research department, do not contradict this statement. These two datasets vary in accuracy, and at times group student data in slightly different buckets, but they are not far enough apart to alter the overall picture of the program. For the two academic years surveyed, the largest single ethnographic reporting group in the college was 39%(N=11458), and 42%(N=11210) White identifying as per tables 11 and 12. The largest age bracket for both years fell between 21 and 40 years of age and the majority of the student body identified as female at 51.5% and 52.2% as per table 15.

Now that we have a picture or what the ADN student body looks like at the target institution, we can look at how it compares on a regional and national level. From an ethnographic perspective we can see a breakdown of the average racial/ethnic makeup of the

students as compared with the demographics of Pierce County Washington, where the college is located.

Table 16.

Race/Ethnic category	Nursing data average for 2018-2020	College-wide average for 2018-2020	Pierce County, WA (Deloitte, 2020)
American Indian/Alaskan Native	0.25%	0.85%	1.18%
Asian	10.83%	7.85%	6.6%
Black/African American	4%	7.25%	6.52%
Hispanic	4.88%	6.2%	11.1%
Native Hawaiian/ Other Pacific Islander	2.02%	0.95%	1.45%
Multi-Racial	8.28%	9.6%	6.87%
White	63.88%	40.55%	66.1%
Unknown	6.43%	25.45%	No data

Note. Adapted from (Hernandez Del Cid, personal communication, 2021)

Averages were calculated by adding the value of each percentage reported and then dividing by the number of reported values for the corresponding category. In the instance of nursing program data, there were two values for each category for each year from both the internal program data and IR. Those four percentages were added together and then divided by four for the resulting average for the two academic years surveyed. By comparing the nursing program averages to the college average and then the county, we can see that the college as a whole appears to have a more diverse student population than the nursing program. This assumption must, however, be tempered with the acknowledgment that there is a significant portion of the student body, 25.45%, whose ethnographic makeup is unknown (Hernandez Del Cid, personal communication, 2020). When we compare the nursing program to the county data,

we see similar racial/ethnic distribution to the general population with the exceptions of an increased representation of Asian students and a decreased representation of Hispanic students versus the county. The Asian population for the county was 6.6% but they constituted an average of 10.83% of the ADN program students (Deloitte, 2020). In contrast, Hispanic percentage of Pierce County was 11.1% but they only accounted for an average of 4.88% of ADN students at the subject college (Deloitte, 2020). The deficit in Hispanic population representation is also evident in the college-wide data as they constituted 6.2% of the total student body, a difference of 4.9% when again compared to the county demographics (Deloitte, 2020). Additional differences emerge such as the underrepresentation of Native American students and Black/African American students with each of these groups having 0.93% and 2.52% difference versus county percentages respectively. While these last two groups do not display large percentage gaps versus the county demographics, they do form an important portion of the hard numbers that add to the discussion of ADN EDI gaps. While we can now surmise that for the years surveyed, there are gaps in results of the EDI efforts of the nursing program from an admissions standpoint, it should be noted that efforts are being made to achieve a more representative nursing student body. In the following section of this research, I will discuss and analyze the qualitative data collected from interviews I conducted with members of the ADN program faculty.

Qualitative Data Analysis

The data collection began with the outreach via email to thirteen nursing program faculty members at the college. From this initial contact I received ten responses who were willing to participate and of those two were not able to participate for a total sample size of eight. The group were all registered nurses licensed in the state of Washington and all over the age of forty.

Out of the eight participants, only one identified as male translating to 12.5% (*n =8*). In following the racial/ethnic categories used by the college IR department, the number of interviewees in each category were White 5, Black/African American 2, Asian 1, with 0 for all other categories (Hernandez Del Cid, personal communication, 2021). This results in a percentage distribution of, 62.5% (n=8) White, 25% Black/African American, and 12.5% Asian. Interviews were conducted using Zoom videoconferencing software, and all but one participant agreed to be recorded. The remaining seven recorded interviews were transcribed using the internal transcription function of the Zoom software, and transcripts were then entered into a coding spreadsheet. The one manually transcribed interview was also entered into the coding spreadsheet. The spreadsheet was organized in order by question and respondent. There was a total of nine questions covered during the interviews. The first six questions were open ended and the last three were Likert scale questions. Open ended questions in this research constitute questions that do not elicit a yes or no response and therefore require more elaboration. For the purpose of maintaining as much participant anonymity as possible, I have included the questions in appendix B but have not included the coded data nor the coding worksheet.

Description of Current EDI Efforts

The first question was general in nature and asked how the interviewee would describe the current EDI efforts of the registered nurse associates degree program. Many respondents dove directly into addressing admissions and then applied some of their talking points to the overall nursing program. The most common thread to emerge from analysis of this first question was that efforts to address issue EDI are being made but that there is still much work to be done. The general consensus was that it is an ongoing process with many believing that enough efforts are being made to address the lack of diversity within the nursing degree program. Some

discussed the many efforts to diversify the student body the program has taken over time. Much of the information on that subject reaches further back chronologically than the temporal scope of this research and is therefore not included but could form part of a historical policy evolution analysis. There were two responses that were at the periphery of the common thread. One respondent believed that a strong concerted effort is being made to promote EDI. They see the current efforts as adequate considering that they believe not enough time has passed to see an impact of the current EDI centered policies within the program. The other had quite the opposite opinion stating that there is no real concrete EDI effort. They believed that current EDI actions are more performative than meaningful in nature.

ADN Program Application Description

In the second question, I asked the participants to describe the ADN program application process from the perspective of EDI. In these responses, more details surrounding how the application process is perceived by faculty, was illuminated. All respondents discussed the lottery in which prospective students entered upon meeting application requirements. Not all respondents mentioned the lottery process favorably from an EDI perspective, but most did. Comments in favor of the lottery discussed the racial blindness of the method by saying that it is not based on any identifiers but rather on points and randomness alone. They extolled the virtue of what they believe to be the potential for success not based on race. More than one faculty member mentioned how simple the actual application process is for students to complete and that anyone who meets the requirements can apply. Additionally, they commented on how no identifiers are collected at the time of application submission that could skew the lottery. Each applicant is assigned a number which is how lottery entry and results are tracked. Most respondents emphasized the additional points added to an application for military service and the

requirement to have an active NAC license as methods for creating greater diversity within the program. One reply, however, was not as favorable. They stated that from their perspective, the program regardless of stated efforts, still primarily serves one population group, that of White females.

Application EDI Representation

In this next question, I asked each participant, to describe what in the current ADN program application process promotes EDI if anything. This question prompted a couple of interesting responses. In a rather nervous voice, one person starting by answering "nothing does". They then quickly rephrased it to clarify that they believe that the application process does not give preference in it's structure to any one race but that rather anyone can apply. This idea that as long as they meet the prerequisites, they can apply, therefore the process must promote EDI through racial blindness is common throughout the answers to many of these questions and especially this one. At this point a trend of describing the past results of NCLEX test and the academic struggles emerged. This follows a thread from most of those interviewed in which they discussed the tension that exists with the desire to diversify the nursing student body and the need to meet academic and licensure rigor. They mention past problems with student attrition when academic standards are lowered, and the nursing student body became more ethnographically diverse. Common phrasing throughout the responses used words such as "neutral", "blind", and "no room for bias". Respondents also made mention of the pathways for students who are licensed practical nurses (LPN) as a way to entice greater diversity. Unfortunately, data for that category of nursing still points to a White female-dominated field at 71.4% as of 2017 (Minority Nurse, 2021). Also mentioned as a factor of EDI for nursing student applicants is the requirement of having licensure as a NAC. The idea being that NACs as a whole

are a bit more diverse and could lead to a more diverse and profession informed student population. Nationally, 44.7% of Nursing assistants identify as White non-Hispanic, and Black non-Hispanic is the second largest group at 33% (Deloitte, 2021). This idea of understanding the responsibilities of nursing and prior exposure to the field followed the thinking that this would lead to less attrition amongst MUR students and perhaps a more diverse group of applicants. As with the other questions, there was one opinion that deviated from the general themes. One study participant believed that for equity to truly occur there must be a more concerted effort. These efforts, in their view, should both directly recruit MUR students, and address issues that students face prior to and while completing the prerequisite classes. They went on to further state that inclusiveness of chance does not address these greater issues. They lamented that current efforts still resulted in a program still primarily White, then Asian. This sentiment is reinforced by the numbers collected by both IR and the nursing program itself.

Improvements for ADN Admissions Process

In question four, I began to enter the phase in which I elicited input from participants on what improvements, if any, should be made to current admission practices for the ADN program. This was also an attempt to further explore topics that may have surfaced during previous questioning. What is interesting about the responses from this question is that they ran the full spectrum from nothing needs to be changed because we are doing all we can within the requirements for accreditation and licensure pass rates to, the process needs complete re-evaluation. One respondent reiterated their thought that the current lottery does not create equal opportunity nor foster diversity. They stated that although unpopular, some form of quotas must be used in order to exact meaningful change. Additionally, they restated the need to know more about individual applicants. Apart from the more polarized responses, middle ground for this

question focused on the need to increase accommodations for MUR students, re-evaluate TEAS test score requirements and increase options for factored and unfactored prerequisites.

Anticipated Findings from Research

The second to last of the open-ended questions asked survey participants what they thought might be found through this research. Most paused before responding as they contemplated. Some believed that when compared to other area colleges, the survey location ADN program would be quite similar in its EDI admissions practices. All except one, of the questioned faculty stated in one form or another, that the investigation would point out that ADN student demographics would not reflect the racial/ethnic distribution of the rest of the college. It was interesting given that at this point in questioning, some had stated that current efforts were adequate, and in some cases, quite good. Yet, in this answer they would also acknowledge a shortcoming of MUR student distribution within nursing. The dissenting opinion was of the mind that the nursing program MUR distribution is similar to that of the college-wide demographics. The issue of STEM prerequisites as barriers to entry was also acknowledged during the responses to this question. This was done in the context of describing where the prospective students come from i.e., the same college student body versus from other institutions or training. They felt that given the difficulties that students often have in STEM classes, more support should occur in order to better prepare students for nursing. One participant believed that there is unequal application of standards throughout the nursing program. This is the case, in their opinion, in prerequisite exceptions, academic flexibility, and any potential disciplinary actions to nursing students. They believe that further investigation would illuminate this inequity despite the fact that many staff are unwilling to acknowledge it and issues of discrimination are not given a voice.

Opportunities for Change in ADN Application and Admissions Practices

For the final question in the series, I asked survey responders, what if anything would they change about the ADN application and admission practices if they had total control. The one caveat with this exercise was that in this scenario they would be limited to current resources. This last requirement proved difficult for many to follow, especially since some of the faculty actively engage in funding efforts for the registered nursing program. In the responses to this question, more supportive voices emerged for targeted recruitment, prerequisite support in STEM and English, and increasing pathways from k-12 education and technical college programs. This last point was brought up both in historical context as something that used to occur, but also as a potential pathway towards increased diversification. Roughly 50% (*n*=8) of respondents wanted to include some way to know more about applicants either through short interviews, essays, or a pathway mentorship. Along the lines of mentorship and support, an increase in bridge programs was a popular solution as well as support for TEAS test preparation. Changes to the lottery system was also a popular option, with the concept primarily being to increase points awarded to ESL, low socioeconomic status and for identity with a historically underrepresented group within registered nursing. All who suggested changes to the point systems, acknowledged the questionable legality of such an approach, but felt it necessary, in one form or another, for meaningful change to result in an increase in EDI for future nursing students. Lastly, one respondent stated a desire to remove the lottery system altogether or to at least decentralize the process that they believed is currently conducted within the nursing program. They also believe that in order to increase diversity, if the lottery system was to continue, then there needs to be a reduction on the emphasis of A letter grades and the practice of

awarding more points to A- grades or above, should stop and be reallocated to areas specific to MUR students.

The next set of responses are to the three Likert scale questions presented during the individual Zoom based interviews. All participants were shown the questions through the screen sharing function within Zoom, in order to avoid confusion and to elicit the most informed responses.

Scale question 1. All except one study participant had uninterrupted access to viewing all of the questions in this group. One participant was in a moving vehicle for a short while and had their connection to the Zoom meeting dropped twice until they arrived at their destination. The first question asks study participants about their satisfaction with the purposeful inclusion of EDI in the nursing program application process. The scale below shows the response options.

Table 17.

0	1	2	3	4
Very dissatisfied	Somewhat Dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Very satisfied

Note. Reprinted from (Hernandez Del Cid, personal communication, 2021)

Since the sample size is relatively small, $n = 8$, I refer to the raw numbers for my analysis. Five of the total responses were somewhat satisfied, one was very satisfied, one was somewhat dissatisfied, and one was neither dissatisfied nor satisfied. A majority of the nursing faculty who participated in the study, see current efforts to center or at least include EDI in the nursing program application process as at least adequate. This result falls in line with most of the survey question responses to survey questions 1, 2, and 3. It came as no surprise that the marginal or dissatisfied responses also mirrored the dissenting voices within the open-ended survey questions responses.

Scale question 2. In the second scaled response question, I sought to further interrogate EDI acceptance or resistance within the ADN program. I did so by asking how agreeable or resistant the registered program faculty and staff are to applying EDI principles into the admissions practices using the following scaled response structure.

Table 18.

0	1	2	3	4
Highly resistant	Somewhat resistant	Neutral	Somewhat agreeable	Highly agreeable

Note. Reprinted from (Hernandez Del Cid, personal communication, 2021)

Two responded that the staff and faculty are highly agreeable to using EDI principles. Three participants chose somewhat agreeable. One chose neutral and interestingly two chose somewhat resistant. None selected highly resistant. What was interesting about the second response of somewhat resistant is that it was from a participant who also rated the purposeful inclusion of EDI as somewhat satisfied. In further elaboration it was stated that they believe a good amount of effort is being made to include EDI within the application and admissions practice but not without resistance. They believe there is a lack of buy-in from some within the program.

Scale Question 3. The last question in the series asks how effective the efforts have been to address issues of equity, diversity, and inclusion in the ADN application process.

Table 19.

0	1	2	3	4
Very ineffective	Somewhat ineffective	Neither effective nor ineffective	Somewhat effective	Very effective

Note. Reprinted from (Hernandez Del Cid, personal communication, 2021)

Only one study participant chose very effective as their response. Three chose somewhat effective. Two chose neither effective nor ineffective. One chose somewhat ineffective, and one

chose very ineffective. This question from the Likert scale group resulted in the broadest range of responses and the only one to have a 0 selection. Working backwards, the zero respondent stressed the need to remove existing barriers to entry. They also stated that the proof to the lack of effectiveness was evident from the ethnographic distribution of the ADN student body. The response that selected somewhat ineffective stated that when TEAS test score requirements were raised, the diversity of registered nursing students decreased. They felt that the two were undeniably linked. Scores of 2, or neither effective nor ineffective, were followed by comments echoing the same sentiment as mentioned above, that the student body is still primarily White females. Additional comments from that level of choice highlighted the current efforts to diversify both the student body and the staff but stressed that change takes time, and that EDI is ongoing. The 'somewhat effective' responses followed a similar approach as the more neutral ones by highlighting the ongoing efforts to reevaluate admissions practices. They stressed the fluidity of the parameters and requirements with the sentiment that as more data becomes available, the program will remain flexible in its response. Additionally, one response stressed that many changes have taken place over then last decades to diversify the nursing program. Lastly, one participant believed that in looking both recently and long term, the EDI efforts have been very effective. They believe that the program is heavily invested in EDI and that current efforts are and will result in greater diversity of ADN students long term.

Results

I will begin the results discussion by performing a gap analysis on the data collected from the interviews and Likert scale questions.

Table 20.

EDI in nursing admissions		
Desired Situation	Current Situation	Stated or potential action plan

A more diversified Nursing student body	Unclear definition of what that means	Define EDI goals for ADN admissions
High NCLEX pass rate	Over 96% pass rate	Maintain current academic standards
Purposeful inclusion of EDI in RN application process	Racial blindness in lottery system	Change point system to broaden applicant base
More staff investment in EDI principles	Staff climate is not cohesive	Conduct blind surveys to determine gaps. Increase contextual EDI training to gain better buy-in.
Higher MUR student success rates	Standards have unequal impact on MUR students	Increase student support once admitted.
Increased pathways for MUR students into RN program	LPN bridge pathway, NAC license required.	Increase pathway support for IBEST NAC students. Increase lottery points for time in service for NAC. Increase outreach to diverse student populations beginning in high school.

The analysis above helps to illuminate goals and gaps. Beginning with the top-level goal of diversification of the ADN program, this was acknowledged by all of the study participants, but it was never clearly defined. It was however mentioned by two participants that the current nursing student body does not reflect the ethnographic distribution of the college-wide student body. This is corroborated by the quantitative data collected. Furthermore, clear gaps in the distribution of nursing students are outlined in Table 16. It becomes evident that perhaps a major obstacle is the lack of a clear definition of the overall EDI goal of the nursing program admissions practice. For clinical purposes we could hope that the nursing program students, and hopefully graduates, mirror the population they serve. This is supported by research into clinical outcomes as affected by population reflexive medical staff (Rosseter, 2020). The clinical goal could serve as the foundation for a defined EDI goal for the nursing program by attempting to reflect the county demographic distribution within the student body.

The requirement of passing the NCLEX is a critical component of a career as a registered nurse. This requirement does not need to be at odds with EDI and some study participants have stated or implied. It does, however, constitute a rigid requirement that forms a cornerstone of the tensions within the program. The question of how best to prepare students for the NCLEX is one that is answered by many nursing program through the use of the TEAS test (Assessment Technologies Institute, 2021). The surveyed colleges response to this tension has been to periodically alter TEAS test requirements in order to maintain a balance with both EDI efforts and students success. Given that the numeric data comes from the most recent two academic years in which TEAS test score requirements have been altered, the number of students who identified as members of a MUR group increased but only as the overall number of students in the Nursing program increased. The numeric change does not result in any significant percentage change for the two academic years surveyed.

Faculty who stated that current EDI efforts are worth continuing may unwittingly be supported by county demographics. If we assume that current academic standards should be maintained, then we must ask if this lends itself to both succesful nursing students, and a student body that loosely reflects the local population distribution, if that is the goal. To answer this we see that current program NCLEX pass rates are high and demographic representation is within 5% (N=891,299) for all groups except Hispanic as illustrated in table 16. It should be noted that although the classification American Indian/Alaskan Native is a small percentage of the county population at 1.18% (N=891,299) the county has a historially well defined and long standing native presence as does the entire region. With this knowledge I must point out that the Native American population representation is the lowest amongst all groups for the two years surveyed. Bear in mind that this does not account for intersectionality as it pertains to racial/ethnic identity

but is constrained by the categories in use by the college IR department and census data collection practices.

The desire to include or follow EDI principles within the RN program has lead to the adoption of what is percieved to be a blind application process. The lack of racial, age, gender or any other identifying information in the nursing program application, is lauded as removing bias and panned as not allowing for more pertinant information. Supporters note that it removes any chance for discrimination because once standards are met, all applicants become a lottery number. Detractors state that without knowing more about a student candidate, an honest assesment of potential success cannot be determined. This would have the added function of buildng rapport with future students and is a cornerstone of field identity as a component of self-efficacy based on SCCT (Lent, 2002). Another avenue suggested for increasing the EDI practice is that of altering the current point structutre for the lottery. Suggestions focused on no longer awarding extra points for higher grades and in turn awarding points for details such as length or work experience in other nursing disciplines such as NAC and LPN. Additionally points could be awarded for MUR afiliation, first generation college students, and other traits. These suggestions although potentially helpful, also may border on impractical due to legal issues with quotas, FERPA, and potential percieved discrimination against a particular group.

When discussing staff buy-in to EDI, responses that held the climate as favorable also tended to view curent EDI efforts as adequate or highly successful. Responses that identified resistance to EDI also saw room for improvement and at least continuous reassessment of diversity efforts. I concluded, therefore, that there is a knowledge gap within the nursing program as to what EDI is and how they as a group intend to implement EDI within the

department. Additional training and dialogue must occur in order to have a more united effort. This also ties in to the need for clearly defined goals for the EDI practices.

Higher student success rates for MUR students has been addressed by some degree of student support within the program and by altering the TEAS test score requirements. It is evident that the nursing program has attempted to find the right balance between these two goals. Student success is often the result of self- efficacy, and no group is more prone to challenges in current U.S education system than MUR students (Patel, 2016). SCCT outlines many structures for success and failure within a field and research has illuminated a common theme that governs self-efficacy. At the center of this is identity with a particular field. If nursing students are to succeed then they must form enough of a bond with the field to associate strongly with it. This occurs through positive experiences with STEM classes, peer support from those who share intersectional traits, and mentorship (Lent, 2002; Hargett, 2019; Malcom, 2010; Rivera, Chen, Blumberg, Flores, & Ponterrotto, 2007). Unequal application of standards, as mentioned by one survey respondant, would appear to relate back to a lack of understanding of EDI and implicit bias by some staff. I would again suggest that better training on EDI principles and implicit bias could reduce this percieved negactive impact.

The final desired situation from the gap analysis covers pathways into the ADN program. Pathways specifically for MUR students within the field of nursing and as table 15 displays, that would include male identifying students. The field of nursing in the United States is a primarily female field and within the studied RN program, this is acknowledged. The number of male students increased by three over the course of the two years surveyed. This is according to the institutional research data displayed in table 4. The U, or undeteremind gender category, as listed by institutional research, nursing student numbers increased by nine over the course of the same

period. Internal nursing data does not display raw numbers but rather percentages and they display an increase from 15% to 19% (Hernandez Del Cid, personal communication, 2021). The nursing department dataset has no reported Other/U students for that same period. This disparity of representation along with the gaps in other MUR students, can be potentially addressed through increased pathways into the nursing program. The idea being that increased channels into a polarized field will lead to increased diversity is supported by research into STEM field barriers for MUR students (Allen-Ramdial & Campbell, 2014). Currently the ADN and the target community college, has a pathway for LPNs to become RNs as well as the requirement to have a NAC license in order to apply. Additionally, the college has a NAC I-BEST program. I-BEST is Integrated Basic Education Skills Training (Washington State Board of Community and Technical Colleges, 2020). IBEST is a co-teaching platform aimed at career readiness and college readiness through increased student support (Washington State Board of Community and Technical Colleges, 2020). I-BEST programs at the college in this study, are targeted to more diverse populations. Such a pathway could serve as a ramp for students who would otherwise not be succesful in traditional college routes into nursing. Suggestions from faculty focus on increased outreach to local highschools and targeted recruitment of MUR students within and outside of the college. Additionally, as mentoined before, a change to the system for lottery points could focus on providing more chances to students from MUR groups.

Discussion

The results of this study show a ADN program that is in the midst of EDI efforts. The findings show that the student enthographic distribution does not markedly deviate from the county percentages with the exceptions of the underrepresentation of the Hispanic community and an overrepresentation of the Asian community as illustrated in table 16. However when the

nursing student body is compared with the college as a whole, greater differences are evident. As shown in Table 16, White students are significantly overrepresented, Asian students are less overrepresented, and Black/African American students are increasingly underrepresented. Additionally, American Indian/Alaskan continue to be underrepresented as well as Hispanic and Native Hawaiian/other Pacific Islander. Where there is a lack of clarity is in the 25.45% listed as unknown for the college-wide count. This is a significant portion of the student body and sheds light on a large gap in ethnographic data collection practices.

Faculty perception of current EDI efforts in the nursing program is not uniform but does yield common themes. Those themes focus on a general acknowledgement of the benefits to diversifying the field, and to support current EDI practices. This is due to the need to have a student body that can succeed with the constraints of the required curriculum and the NCLEX licesure exam. There is a general consensus that the efforts must be ongoing and that some things are working and perhaps others are not. Most participants praise the blindness of the lottery system, other acknowledge the need to change the point allotment. Those who see a greater need for constant reevaluation of the process, also discussed increasing outreach, support and pathways into the program. Overall, the sentiment that current practices are worth keeping but perhaps need adjustment is echoed in the distribution of students per the data collection practices.

Data collection does need to be refined as is evident in the differences in age categorization, and knowledge gaps. Current racial/ethnic groupings need to be reassesed in order to better represent the broad spectrum of our population. Institutions of higher education are becoming more aware of the need to reassess data collection practices as a mode of

increasing EDI. This college is no different as they have recently established a vice presidential level office of equity diversity and inclusion.

Recommendations

Based on the findings and themes gleaned from the interviews, it is apparent that the college and more specifically, the nursing program is making strides to tackle issues of equity, diversity, and inclusion within a traditionallly White and female field. There are, however, areas to be considered for improvement. Before policy or practice change can occur, the ADN program must define what EDI success looks like. Does it mean the students in the program mirror the county population or the rest of the college, or is it some other goal altogether. Once this is clearly outlined then I suggest the following changes be considered.

The first area where change could occur is with the point allocation for the lottery system. These recommendations are based on current information collection practices and would be better informed if nursing program applicant data was collected from all who apply. This is a sentiment repeated by many participants in this study. Based on the current allocation, I would remove extra points for grades above A-. If the standard measure of knowledge for this program states that a letter grade of B is enough to reasonably expect success in the areas of factored prerequisites, then rewarding more points for a grade higher than the standard required, only rewards those with potentially more support structures that enable academic success (Wang, 2013; Katz, Barbosa-Leiker, & Benavides-Vaello, 2016). This will only reward the priveledged. Conversely, the practice of removing points from a student who has had to retake one of the three factored biology courses, punishes those who potentially have less support structures, or other life circustances that interrupted academic progress. Without further data it could be inferred that this kind of policy has a disproportionate negative impact on students from lower

socioeconomic status and MUR groups, as well as first generation students (Hargett, 2019). Last with regards to lottery points, I respecfully suggest awarding points for years working as either a NAC or LPN based on the MUR distribution within these two nursing fields. The 30 points used for higher grades could be reallocated to students that have such work history. Additionally, the effectiveness of the NAC licensure requirement should be evaluated for any unintended consequences. For EDI efforts to succeed, such strategies to promote EDI should not create additional barriers. The NAC licensure requirement is one such potential unitended barrier that deserves investigation.

With regards to increasing pathways, my suggestion is to capitalize on existing stuctures and create new ones. Existing pathways such as the I-BEST NAC program should have a more clearly defined and supported pathway into the ADN program. This could be accomplished by an expansion of the I-BEST supported model into courses that constitute the factored and non-factored nursing prerequisites. In the case that the latter is cost prohibitive, an expansion of existing navigation services partnered with tutoring, and the campus math and reading center, could potentially accomplish much of the needed student support. In the program I teach, prior to the COVID 19 pandemic, we had an I-BEST pathway that was a year in length. This supported path allowed students, most of who were not yet at college level English and math, to be able to enter fully as second year program students after completion. Under normal circumstances this would take them an extra academic year on average.

Another route from which to increase diversity through RN pathways is through defined articulation agreements with existing area LPN programs as well as outreach to local LPN and NAC employers. Additionally, more high school level recruitment and coordination with guidance/career counselors in areas of higher MUR population concentration could only benefit

EDI efforts. Outreach should be done in a well planned manner and conducted by faculty and staff representing the communities targeted. In order for MUR students to consider the field of nursing, they establish some form of positive connection with a representative of that field (Aynaci & Gulmez, 2019).

Men in nursing still represent a small percentage of all licensed professionals (Sikma, et al., 2017). There are however medical fields that have more male members. Men make up 66.3% of Emergency medical technicians (EMT) and paramedics (Deloitte, 2021; Deloitte, 2021). The college in this study has a robust EMT and paramedic program. It would therefore seem possible to create a pathway for this group into the ADN program following the same structure as outlined above for the NAC students. This might have to be done with some additional care given to internal political tensions between programs as there should no percieved poaching of students. In the end, the goal, of course, is to increase EDI and create succesful graduates. A second area of potential recruitment for more male nursing students is that of former military medics. Pierce County Washington, boasts a large military installation and many veterans. Former military medics face many challenges when attempting to transition to a civilian career (Keita, et.al. 2015). Some colleges such as Texas A&M and Montgomery College, have specific pathways and accelerated programs for former military medics to become registered nurses (Montgomery College, 2021; Registered Nursing.org, 2020). This is a path that the college at the center of this study could explore. Especially since there are others already doing this and there is a local supply of students to serve. Most military medics currently have few choices except follow the military option of Physician assistant training or in some instances LPN licensure (Keita, et.al. 2015).

Lastly, given the efforts that the college and nursing department are making, I believe it

in the best interest of EDI efforts to create a dedicated STEM pathway navigator under the Division of Equity Diversity and Inclusion. Such a position would be reponsible for coordinating support systems and outreach to ensure MUR student success. The logic for this suggestion is that STEM prerequisites for any field that has lower than desired MUR participation require different support systems for those students than that of the dominant group. Such support begins by acknowledging them, the students and meeting them through a safe and welcoming structure which recongnizes their challenges and struggles.

Further Research

Given the limited scope of this dissertation, and the constraints of the COVID pandemic, there are gaps in knowledge that beg to be explored further. In order to form a better picture of all prospective nursing students, a study could be perfomed in which questionaires or interviews are conducted with all ADN program applicants. Such data collection could focus on the barriers they each percieve. This should include their career choice decision process, as well as their support structures and external tensions. Such tensions could focus on issues many community college students face such as childcare, housing insecurity, transportation, food insecurity, etc. This is a knowledge gap that currently exists in student data. It is understandable that there is a reluctance to collect such information during the application process because it can carry the perception of bias. I do believe that it is worth pursuing because without that data, EDI efforts can be made based on partially informed assumptions. Additionally, further research into socioeconomic traits across the region and compared with ADN graduation rates would help to clarify nursing student characteristics in order to better inform long term EDI efforts.

An analysis of student recruitment and marketing efforts should be performed. Local demographic data could be used as a basemap for such research with layers within the GIS used

to determine overlaps and gaps based on MUR population concentration. The reach based on MUR representation within the community could be useful to informing more targeted marketing. In addition to geography, language use within current marketing and recruitment practices should also be evaluated. This should not be looked upon as an implied relaxing of academic English requirements but rather as a more self aware outreach approach for the college to take if EDI is truly centered. To continue this evaluation, the nature of the marketing material should also be evaluated for implicit bias and gender/racial ambiguity as it pertains to the dominant narrative. How many students and faculty from underrepresented groups are visible in the current marketing efforts? Do prospective students have a visible analog within the material? The college must ask if the material reflects who they aim to see in the ADN program and adjust as needed.

Expanding the structure of this body of work and replicating it at other regional institutions could yield tools and processes to better RN program EDI results regionally. This has the added advantage of not being as invasive as primary data collection directly with large student bodies. Such a regional study could then be compared with data from a regional prospective RN student survey. In order for this to be useful, emphasis must be placed on prospective students and not just successful candidates. This would allow for a clearer picture of real and percieved barriers.

Final Reflection

The design phase of this research began prior to the onset of the COVID 19 pandemic and was impacted by the need to adjust in following social distancing protocols. The first major impact was to my own teaching and work duties. Since I teach in a primaliry traditional manner of lectures and hands-on lab work, the pandemic forced me to change large portions of both my

work and personal life, in order to accommodate remote teaching. This took months and is still being adjusted at the time of this writing. Because my program does not exist in a vacuum, the ADN program also had to adjust accordingly with switching to primarily remote teaching paired with highly controlled limited access lab and clinical time. The required changes to both of these programs disrupted my research and lead to delays in data collection and the change from face to face interviews, to Zoom based ones. I would also contend that it had an impact on participation within the qualitative portion of the research. What I find interesting is that the faculty interviewed did at times acknowledge the impact of the pandemic on their work and work life balance, but there was no mention of any potential impact on student demographics. For my own program, It has appeared to have had little impact on diversity in the short term but it is not selective entry. Overall this research has helped me better identify barriers that many students face in higher education and prior to career choice. It will inform my own practice and outreach for years to come as I attempt to help diversify my own corner of STEM. I look forward to applying many of the theories and practices found both in the literature and within the ADN program to my own career field and personal life.

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Appendix A

University of Washington, Tacoma

College of Education

Education Leadership Ed.D.

Research Participant Information and Consent Form

TITLE OF STUDY: Diversity in Nursing Education, An analysis of Registered Nurse Associate Degree Admission Practices.

PRINCIPLE INVESTIGATOR: Sergio Hernandez Del Cid, doctoral student, University of Washington

COMMITTEE: Dr. Robin Minthorn (Chair), Dr. David Reyes, Dr. Katie Haerling

DESCRIPTION OF RESEARCH

I will evaluate the current admissions practices of the nursing program at a regional community college. I will then formulate suggestions informed by Social Cognitive Career Theory and Critical Race Theory.

This mixed methods study will be conducted with quantitative data collected from the college institutional research department, a survey and interviews. Surveys will be distributed electronically, and interviews will be conducted via the remote meeting utility Zoom. One-on-one interviews will last approximately sixty minutes. With your permission, the interview will be recorded in order to ensure accuracy. I will utilize a non-affiliated transcription service and will ask participants to review their transcripts for accuracy and revisions. Both recordings and transcripts will be kept in a password protected file for three years and then destroyed. Data may be used in publications, conference presentations, or future research projects.

If you participate in this study, I would like to be able to quote you directly without using your name. If you agree to allow us to quote you in publications, please type or sign your initials at the statement at the bottom of this form. If you are unable to complete this form digitally, consent may be provided verbally at the beginning of the Zoom session.

WHAT WILL MY PARTICIPATION INVOLVE?

Your participation is completely voluntary. You have the right to withdraw at any time during the study. Participating in the study will include an electronic survey response and a one-on-one interview lasting

approximately sixty minutes. You will be given the interview questions ahead of time and you may skip any question you wish not to answer. If you wish to redact any portion of your response, please contact me and I will delete it from the transcript.

ARE THERE ANY RISKS TO ME?

This study poses minimal confidentiality risks. With a very small sample size, it is possible participants could be identifiable based on their responses. Risks will be minimized by not disclosing the location of the study and by using numeric identifiers in the data, analysis, and any publication to protect the confidentiality of the participants.

HOW WILL MY CONFIDENTIALITY BE PROTECTED?

To ensure confidentiality, only I, the interviewer, will know the identity of the participants. I will use a responder number in the data, analysis, and any publication to protect the confidentiality of the participants. All written notes and computer transcriptions will be coded, and I will include password protection on documents that have participant data. All data will be destroyed after three years for publication purposes and future research.

WHOM SHOULD I CONTACT IF I HAVE QUESTIONS?

Please do not hesitate to reach out to the researcher if you have any questions, (sergioh@uw.edu). If you are not satisfied with response, have more questions, or want to talk with someone about your rights as a research participant, you may contact the University of Washington Human Subjects Division – Team D at hsdteam@uw.edu The Human Subjects Division is a group of people that reviews research studies and protects the rights of people involved in research. Additionally, upon the completion of the study, I will be happy to discuss the findings with you if you request to do so.

Sincerely,

Sergio Hernandez Del Cid

Doctoral Student - College of Education

Phone: (206) 601-5518

Email: sergioh@uw.edu

University of Washington, Tacoma

College of Education

Education Leadership Ed.D.

Consent Signature Form

Your signature indicates that you have read this consent form, had an opportunity to ask any questions about your participation in this research, and voluntarily consent to participate. You will receive a copy of this form for your records.

_____ I give permission for the interview to be recorded for transcription purposes.

_____ I give permission to be quoted directly in publications without using my name.

Name of Participant (please print or type):

_____

Signature (or digital): _____

Date:_____

Appendix B

Dissertation Data collection form
Introduction will be made outlining the purpose and scope of the research

Survey questions:

1. How would you describe the current EDI efforts of the Registered Nurse AAS degree program?

2. How would you describe the application process from an EDI lens?

3. What about the current application process promotes EDI?

4. What areas of the application process could be improved in order to increase EDI if necessary?

5. What do you think we will find through this research?

6. If you had total decision-making control with current resources, what if anything would you change about the RN program application and admissions processes? or do differently?

Using the following scales please score the subsequent questions from 0-4

1. Using the scale below how satisfied are you with the purposeful inclusion of EDI in the ADN program application process?

0	1	2	3	4
Very dissatisfied	Somewhat Dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Very satisfied

2. Using the scale below, how resistant or agreeable to you believe ADN program faculty and staff are to applying EDI principles into their admissions practices?

0	1	2	3	4
Highly resistant	Somewhat resistant	Neutral	Somewhat agreeable	Highly agreeable

3. Using the scale below, how effective do you believe the efforts to address EDI within the ADN program application process have been?

0	1	2	3	4
Very ineffective	Somewhat ineffective	Neither effective nor ineffective	Somewhat effective	Very effective