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Development and Psychometric Testing of the EFURMS Scale: An Instrument to Measure Faculty Engagement with Underrepresented Minority Nursing Students: A Dissertation

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Development and Psychometric Testing of the EFURMS Scale: An Instrument to Measure
Faculty Engagement with Underrepresented Minority Nursing Students.

A Dissertation Presented

by

Paula J. Moreau

Submitted to the Graduate School of Nursing
University of Massachusetts Worcester
In partial fulfillment of the requirements for the degree of
Doctor of Philosophy
Nursing

December, 2015

DEDICATION

This work is dedicated to my loving and supportive family:

To my husband, David, who been a constant source of support and encouragement in ways too numerous to mention;

To my children, Danielle, Nathaniel, and Mark who are the source of my greatest inspiration;

To my mother, Lila, a life-long learner, who exemplified the courage and passion to pursue her goals, and to my father, Raymond, who modeled the dedication and discipline it takes to reach your goals.

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Finally, I am grateful to the many URM nursing students I have worked with over the years, who have exemplified tenacity and grace under fire. You are the inspiration for this work. It has been and continues to be an honor to learn from you.

University of Massachusetts Worcester

Graduate School of Nursing

*Development and Psychometric Testing of an Instrument to Measure Faculty Engagement
(FE-10) with Underrepresented Minority Nursing Students*

A Dissertation Presented

By

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ABSTRACT

Background: The Institute of Medicine and numerous other healthcare organizations have identified the severe shortage of underrepresented minority healthcare professionals graduating into the workforce, and have called for a radical transformation of healthcare educational programs to make them more welcoming and supportive of underrepresented minority students.

Purpose: The purpose of the study was to develop a reliable and valid measure of faculty response patterns to the needs of underrepresented minority nursing students.

Theory: Yoder's patterns of faculty interaction formed the conceptual basis for the development of this instrument.

Methods: A mixed-method approach was used to develop this instrument. The first phase (item development phase) consisted of work with underrepresented minority nurse and faculty focus groups, individual interviews, and content experts to develop items. During the second phase of this study, psychometric evaluation of 134 survey responses from nursing faculty in the Northeast was conducted.

Results: A 10-item scale was developed that measured faculty engagement with underrepresented minority nursing students. The Cronbach alpha for the EFURMS scale was .81. Principle component factor analysis with varimax rotation revealed a 3 factor solution that explained 66% of the variance in engagement with underrepresented minority students. The Cronbach alpha for the 3 factors ranged from .72-.78. The EFURM scale did not demonstrate ceiling or floor effects, or social desirability bias. More positive scores (higher EFURMS Scores) were associated with older faculty who had been teaching longer and had more experience teaching underrepresented minority students.

Conclusion and Implications: The results of this study provide preliminary evidence for the reliability (internal consistency) and validity (content, criterion-related, and construct validity) of the 10-item EFURMS Scale. Further testing is needed to test the usefulness of this scale with wider samples of nursing faculty. With further development, the EFURMS Scale could be used to evaluate faculty readiness to engage with underrepresented minority students, and with studies to test the efficacy of interventions designed to improve faculty engagement with underrepresented minority students. A major finding of this study was the significance of age, years teaching, and experience teaching underrepresented minority students with EFURMS Scores suggesting that younger or less experienced faculty could benefit from mentoring by more seasoned faculty who have greater experience teaching underrepresented minority students.

Development of a Scale to Measures Faculty Interaction Patterns with
Underrepresented Minority Nursing Students

A Dissertation Proposal

by

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Introduction

A critical challenge facing nursing faculty today is how best to meet the educational needs of an increasingly diverse student nurse population (Bednarz, Schim, & Doorenbos, 2010; Degazon & Mancha, 2012; Loftin, Newman, Gilden, Bond, & Dumas, 2013). The rapidly shifting ethnic demographic within the United States (US) makes that challenge an essential one to meet (Shrestha & Heisler, 2011; Sullivan & Mittman, 2010). Nursing and health care organizations have concluded that improved representation of ethnically and linguistically diverse students graduating into the nursing workforce will help to improve the safety and quality of health care delivery across a diverse population of patients (American Association of Colleges of Nursing (AACN), 2014) (National League for Nursing (NLN), 2009; B. D. Smedley, Butler, Bristow, & Institute of Medicine [U.S.], 2004; The Joint Commission, 2010).

Research demonstrates that underrepresented minority (URM) health professionals – identified currently as those from African American, Hispanic, Asian, American Indian and Alaska native backgrounds (AACN, 2014) – are more likely to work successfully with underserved patient populations and more likely to provide culturally sensitive care (Grumbach, Hart, Mertz, Coffman, & Palazzo, 2003; U.S. Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), & Bureau of Health Professions (BHP), 2006). However, due to the chronic under-representation of ethnically diverse health care professionals, a radical transformation is needed within our professional schools in order to make programs more welcoming and supportive of URM students (Bednarz, et.al., 2010; Sullivan, 2004; Sullivan & Mittman, 2010).

Research on URM nursing students has identified the role of nursing faculty as instrumental in influencing the student's ability to persist in their studies and complete their

nursing education (Degazon & Mancha, 2012; Gardner, 2005). URM nursing students report that faculty encouragement can be a significant factor in helping them to refocus and reframe the assessment of their abilities and the stressors they experience (Amaro, Abriam-Yago, & Yoder, 2006; Degazon & Mancha, 2012; Gardner, 2005). A grounded theory proposed by Yoder (1993) highlighted five patterns that nursing faculty use when interacting with racially and ethnically diverse nursing students. They are the *culturally non-tolerant*, *generic*, *mainstreaming*, *struggling* and *bridging* patterns. These patterns range from what Yoder considers least helpful (culturally non-tolerant) to most helpful (bridging) patterns of interaction (Yoder, 1993). Although components of this theory have been supported by several qualitative studies (Amaro, et al., 2006; Junious, Malecha, Tart, & Young, 2010; Malecha, Tart, & Junious, 2012), to date there are no other published studies which have specifically focused on faculty patterns of interactions with URM nursing students, and there has not been a reliable and valid scale developed to measure these patterns to use in statistically powered studies.

The development of a psychometrically sound measure of faculty patterns of interaction with URM nursing students will help close the gap by testing the assumption of Yoder's substantive theory to advance nursing educational research. Specifically, this scale could be used to evaluate faculty readiness to engage in teaching URM nursing students, and to test the efficacy of interventions directed at enhancing faculty integration of cultural awareness into their academic practice. Therefore, the purpose of this study is to develop a reliable and valid measure of faculty patterns of interaction to the needs of URM nursing students. This measure will be entitled the Faculty Interaction Patterns with Underrepresented Students in Nursing scale (hence known as The Scale).

Specific Aims

The specific aims of this study are to

1. Identify scale items that are indicators of nursing faculty responses and patterns of interactions URM nursing students.
2. Conduct content validity procedures (face validity and content validity index assessment of The Scale;
3. Conduct preliminary psychometric testing of the The Scale using the steps outlined by DeVellis (2012).

Background and Significance

The Need for Greater Diversity in Nursing

In 2004, the Institute of Medicine identified significant disparities existing in the provision of healthcare in the US for racial and ethnic minorities (Smedley, et al., 2004). This report as well as others (Sullivan, 2004; Sullivan & Mittman, 2010; U.S. Department of Health and Human Services (HHS) & Office of Minority Health (OMH), 2001) have called for increasing the number of linguistically and culturally diverse healthcare providers as an important means of improving successful patient-provider interactions and to enhance greater cultural sensitivity within the practice disciplines (Sullivan & Mittman, 2010). Although registered nurses comprise the largest number of health professionals in the U.S – approximately 2.8 million in the workforce (Health Resources and Services Administration (HRSA), Bureau of Health Professions (BHP), & National Center for Health Workforce Analysis, 2013) – the ethnic and racial characteristics of the nursing workforces do not reflect those of the country as a whole. While approximately one third of people in the U.S self-identified as a member of a minority group, a recent survey of registered nurses suggested that URM nurses represented only 17% (approximately 165,000) of the total RN national workforce (National Advisory Council on

Nurse Education and Practice (NACNEP), 2013).

Challenges for Nursing Programs

Nursing and health care organizations have concluded that improved representation of ethnically diverse students graduating into the nursing workforce will help to improve the safety and quality of health care delivery across a diverse population of patients (American Association of Colleges of Nursing [AACN], 2014; National League for Nursing [NLN], 2009, 2013)

Nursing programs in the US have made efforts to increase the number of URM nursing students accepted into programs in recent years (AACN, 2014, NLN, 2013). For example, some programs have used traditional and non-traditional pre-nursing outreach strategies to attract diverse high school and middle school students (AACN, 2014). Various programs employ a range of coordinated efforts to support URM students for assistance with the application process, financial aid, mentoring, and a variety of other student support programs (AACN, 2014)

The percentage of URM students attending pre-licensure baccalaureate programs in the US has increased from 26.8% in 2010 to 28.0% in 2011 (AACN, 2014). However, the percentage of ethnically diverse students successfully graduating from US schools of nursing and entering the workforce is reportedly as low as 15% in some programs (Gardner, 2005; Loftin, Newman, et al., 2013). This rate of attrition has left nursing educators struggling to identify best modalities to help improve outcomes for this student population (Degazon & Mancha, 2012; Gilchrist & Rector, 2007; Jeffreys, 2007; Loftin, Newman, et al., 2013)

Student Challenges

Several studies have identified the many challenges URM nursing students experience while they attend school in the US. Challenges most often cited include: (a) financial and work-related challenges (Amaro, et al., 2006; Degazon & Mancha, 2012; Jeffreys, 2007), (b) language

issues (J. F. Brown, 2008; Junious, et al., 2010; Starr, 2009)); (c) cultural adaptation (Amaro, et al., 2006; Junious, et al., 2010; Robinson, 2013), (d) social isolation (Amaro, et al., 2006; Junious, et al., 2010; Robinson, 2013), and (e) a perceived lack of recognition of their uniqueness (Amaro, et al., 2006; Gardner, 2005). While there is general concurrence that these factors impede success for URM nursing students, there is not always agreement between faculty and URM students on which of these factors most significantly impede success.

Lack of congruence between faculty and URM student perception of challenges

Although there is broad agreement that URM students are hard-working and willing to make the necessary adjustments to reach their goals (Brown, 2008; Gardner, 2005; Junious, et al., 2010), faculty and URM students tend to frame the challenges faced by URM students differently. While nursing faculty tend to attribute *internal traits* such as poor academic preparation, difficulty with language, and problems with social adjustments as mediators of the problem of student underperformance (Beacham, Askew, & William, 2009; Bednarz, et al., 2010; Jalili-Grenier & Chase, 1997), URM students, by contrast, often focus on *situational and affective* mediators that they believe most impede their success. Students report feelings of isolation, fear of failing and concerns with how they will be seen by faculty and peers play an important role in their academic and clinical performance (Amaro, et al., 2006; Gardner, 2005; Love, 2010). Many students also report perceived unequal treatment, missed opportunities in the classroom, and perceived lack of inclusiveness as important barriers to their success (Amaro, 2006; Love, 2010; Mulready-Shick, 2008).

Missed Communication

URM nursing students report that their actions are frequently misinterpreted or poorly understood by faculty and peers (Amaro, et al., 2006; Gardner, 2005; Robinson, 2013). They

may demonstrate hesitancy speaking up in class or difficulty asking for clarification for fear of being stereotyped as slow or incompetent (Gardner, 2005; Robinson, 2013). This dynamic has the unintended effect of limiting their opportunities to interact in the classroom and with peers, thus perpetuating the cycle of misinterpretation.

Problems with Cultural Understanding

Although there is a clearly stated value of increasing diversity within the nursing classroom (AACN, 2014, NLN, 2013), reports in the literature indicate students feel unappreciated for their unique cultural qualities (Brown, 2008; Junious, 2010; Robinson, 2013). URM nursing students report experiencing discrimination, stereotyping and episodes of racism (Amaro, et al., 2006; Gardner, 2005; Jeffreys, 2007; Sanner, Wilson, & Samson, 2002). Lack of cultural knowledge and understanding and social bias from faculty and peers is an overarching theme described by the participants in qualitative studies (Amaro, 2006; Brown, 2008; Junious, 2010; Gardner, 2005; Robinson, 2013) Students describe feeling discounted, devalued and ignored and express concern that their peers and faculty sometimes lack sensitivity and cultural awareness (Junious, 2010; Robinson, 2013). Some students recount feeling ignored when their peers are looking for someone to ask a question or are seeking support in clinical or in class, even though the student was capable of answering the question and providing support (Gardner, 2005).

Other URM nursing students, especially those born outside the US, describe feeling self-conscious about their accents or fear being labeled as “dumb” because they have difficulty with certain aspects of the language (Junious, et al., 2010; Starr, 2009). Although issues of “cultural competence” were reportedly addressed and included in curricula, URM students did not see these concepts translated into day-to-day interactions with their US-born peers (Gardner, 2005; Junious, 2010; Robinson, 2013).

These perceptions are not limited to URM students in nursing. A large body of research, for example, is emerging in the social sciences which focuses on interventions designed to break the cycle of mistrust experienced by URM generic baccalaureate students (Steele, 2010; Steele, Spencer, & Aronson, 2002). These interventions target URM students' affective responses (i.e. thoughts, feelings, and beliefs about themselves in school) in order to counter cues that paint a stereotypic picture of URM students (Yeager, et al., 2014; Yeager & Walton, 2011).

Towards a solution

Interventions Reported in the Literature

A number of strategies to increase the retention and improve academic performance of URM nursing students have been reported. These include early identification of academic difficulties and prescriptive strategies for remediation of skills (J. Brown & Marshall, 2008; Nnedu, 2009), tutorial support and use of coaches, (Anders, Edmonds, Monreal, & Galvan, 2007); technology or media-based support (internet access, use of laptop computers and hand held technologies (Loftus, 2013; Sutherland, Hamilton, & Goodman, 2007); workshops which focus on academic and life-skills (J. Brown & Marshall, 2008; Nnedu, 2009; Swinney & Dobal, 2008); use of retention coordinators (Gardner, 2005); financial aid (Gordon & Copes, 2010; Nnedu, 2009; Swinney & Dobal, 2008); and mentoring (Anders, et al., 2007; Stewart, 2005; Sutherland, et al., 2007).

Although many of the programs noted above have demonstrated initial success in retaining students and with improvement on National Council Licensure Examination for Registered Nurses (NCLEX-RN) pass rates, there are no identified long term studies which would indicate that these interventions are sustainable. In a recent analysis of interventions aimed at improving outcomes for URM nursing students Loftin and colleagues (2013) concluded that none

of the studies reviewed applied the same combination of approaches, thus making it difficult to assess which combinations might be more promising. The review also noted that there was a lack of consistency of measured outcomes, as some reports focused on retention rates and graduation rates, while others focused on NCLEX pass rates. In addition, the authors point out that URM students were not interviewed in most of these studies to determine which strategies worked best for them. Of equal importance, there was no faculty appraisal of intervention effectiveness. The authors concluded that there is a need for more rigorous design, greater consistency of interventions to test assumptions, greater transparency of how interventions were conducted, and of the challenges they encountered.

Faculty buy-in and endorsement of strategies to promote URM student success

In order to assure sustainability of any intervention to promote URM success, the inclusion and reference to faculty viewpoints would seem to be essential. Although the literature consistently points to the pivotal role nursing faculty play in promoting UMR nursing student success (Amaro, 2006; Gardner, 2005; Jeffreys, 2007; Junious, 2010), there is a paucity of research investigating faculty assessment of the effectiveness of strategies which have been implemented (Baker, 2010).

In some instances, it appears that nursing faculty are not in agreement with strategies supported in the literature. For example, a cross-sectional survey of 200 nursing faculty from a 16-state area of the US investigated faculty perceptions of which strategies promoted URM nursing students' success (Baker, 2010). Providing timely feedback on academic exams and clinical performance, as well as faculty availability were rated as the most helpful strategies. Faculty gave the lowest ratings to peer mentoring and study groups – strategies which have been supported in the literature (Payton, Howe, Timmons, & Richardson, 2013; Sutherland, et al.,

2007; Wilson, Andrews, & Leners, 2006).

Intervention efforts for URM nursing students tend to place significant attention on remedial, tutorial and skills-building supports and less focus on details of students affective concerns such as feeling isolated and difficulty speaking up in class (Loftin, Newman, et al., 2013). Many of the interventions reported are resource-intensive and supported by grants (Nnedu, 2009; Sutherland, et al., 2007) raising concern whether the reported successes would be sustainable over time. There appears to be some effort to address URM student affective concerns through the use of peer and faculty mentors (Anders, et al., 2007; Nugent, Childs, Jones, & Cook, 2004; Stewart, 2005) or in one case by hiring a retention coordinator (Gardner, 2005). The roles of mentors and support personnel and their impact on student success were not clearly explained.

Student Perception of Faculty Support

URM students consistently identify nursing faculty as playing an essential role in influencing their ability to persist in their studies and complete their nursing education (Amaro, et al., 2006; Gardner, 2005; Junious, et al., 2010; Love, 2010; Veal, Bull, & Miller, 2012). Based on qualitative interviews with students, one author noted “Depending on their education and relationships with students, teachers can either be barriers or play key roles in students’ success”(Amaro, 2006, p. 252). Students place high value on faculty who can understand their unique cultural and learning needs and are willing to make accommodations when possible (Amaro, 2006; Gardner, 2005; Junious, 2010). Even with the many stressors URM nursing students experience, many report that faculty encouragement can significantly help the student in their ability to succeed (Brown, 2008; Gardner, 2005; Junious, 2010).

Faculty Development Projects

A number of intervention projects that focus on recruitment and retention of URM

nursing students have included faculty workshops and seminars designed to address cultural awareness and sensitivity and/or cultural competence (Brown & Marshall, 2008; Nnedu, 2009; Stewart, 2005). However, the reporting of these workshops is obscure. Little attention is given to the specific strategies that were employed, their theoretical underpinnings, or to the effectiveness of strategies implemented.

Efforts at developing faculty cultural awareness and sensitivity appear to be an add-on to more focused attention for interventions aimed at addressing URM student deficits. For example, Brown and Marshall (2008) give detailed information about retention strategies to improve student testing performance, however they give little information about efforts that were used to develop faculty cultural awareness. They simply indicate that faculty were given opportunities to participate in workshops for “special needs and cultural diversity” (p. 27).

Nnedu (2009) reports that several workshops were held to provide faculty the opportunity to assess their level of cultural competence using the Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals – Revised Questionnaire (IAPCC-R) (Campinha-Bacote, 2002, 2003) before and after developing a transcultural health course. There are no details about topics covered and no data is provided about faculty’s pre and post-performance on the IAPCC-R. The author does mention “serendipitous findings and related activities” (p. 96) at the end of the article citing high incidence of crime and sexual activity of adolescents in the area, plainly suggesting a deficit model or perspective on the racial and minority groups they are working with.

Cultural Competence - Methodological Problems

The provision of “culturally competent” health care is considered to be an essential mechanism to reduce existing racial and ethnic health disparities in nursing as well as other health

professions (AACN, 2008; NLN, 2013; Expert Panel on Cultural Competence Education for Students in Medicine and Public Health, 2012; Smedley, Stith, Nelson, & Institute of Medicine [U.S.], 2003). However, there are a variety of competing definitions with different attributes reflecting contrasting priorities about the concept, making it difficult to discern what constitutes *culturally competent* practice and how to quantify it. Terms such as *cultural sensitivity and awareness*, *multiculturalism*, and *cross-cultural competency* among others are used interchangeably, often with unspecified or different nuances of meaning (Suh, 2004; Wear, 2003). This lack of conceptual clarity complicates attempts to identify a discrete set of premises for research and practice.

Defining “culture”

Culture is a complex and elusive term that has more than 100 definitions (Kroeber & Kluckhohn, 1952) reflecting a range of philosophical and theoretical perspectives. The term may refer to knowledge, beliefs, art, laws, values and customs of individuals, groups, or institutions (Campinha-Bacote, 2003). Culture may be conceptualized primarily in terms of values, norms, and needs, of distinct groups that have relatively stable needs (Leininger, 2007). Alternatively, it may be viewed as a product of multiple, complex, and dynamic interactive forces that shape populations (Campesino, 2008; Culley, 2006).

Transcultural Nursing Theory (TCN) – a set of anthropological theories – has gained wide acceptance among nurses over the past 40-50 years (AACN, 2008; Leininger, 2007). Leininger who is considered the founder and leader of TCN (Boyle & Hinrichs, 2013) describes her theory of Cultural Care and Diversity as one which focuses on discovering “meanings, values, beliefs and symbolic referents of care for *designated* cultures” [emphasis added] (Leininger, 2007, p 10).

TCN has been criticized for unduly concentrating on culture in terms of fixed attributes

that groups possess and which do not change (Campesino, 2008; Culley, 2006). Critics of TCN argue further that culture is a mutable and permeable social construct that changes with the subtleties of social interactions and affiliations (Campesino, 2008; Culley, 2006; Wear, 2003). Trying to identify, for instance, the cultural attributes of a woman who is first-generation Haitian professional-class and lesbian becomes a layered and complicated process. Many authors have warned that ignoring such complexity can potentially lead to damaging forms of stereotyping and bias, and the inability to see differences within designated groups as well as across groups (Campesino, 2008; Culley, 2006; Gregg & Saha, 2006). From a critical perspective, culture can be understood in terms of shifting interpersonal power differentials, giving rise to social inequality in the form of privilege, stigma, and exclusion (Campesino, 2008). The TCN model of culture, as well as others that emerge from a liberal, humanist perspective (e. g. Campinha-Bacote, 2003; Jeffreys, 2007; Leininger, 2007; Purnell, 2013) are considered flawed from a critical cultural perspective because they do not deal with important socio-historical and institutional contexts around topics such as race and class which inherently give rise to power imbalances (Campesino, 2008; Culley, 2006; Gustafson, 2005).

Increasing numbers of educators in medicine are focusing on the destructive role that conscious and unconscious bias can play in patient-provider interactions (Willen, Bullon, & Good, 2010; Willen & Carpenter-Song, 2013). As a result, many educators are seeking pedagogical strategies to creating “safe spaces” for students and faculty to “lift the hood” and closely examine potential “blind spots” and hidden biases (Hannah & Carpenter-Song, 2013; Willen, et al., 2010). It is widely acknowledged that nurses tend to be uncomfortable discussing issues related to race and class, and prefer instead to stay within the domain of “color-blind” and “class-blind” discourses (Bednarz, et al., 2010; Campesino, 2008; Culley, 2006; Hall & Fields, 2012, 2013).

Culley (2006) writes that “the discursive construction ‘nurse’ assumes a magnanimity supposedly permitting nurses to transcend whatever racial and class biases constrain ordinary people’s interaction with ‘others’” (p. 145). She asserts further that although “cultural diversity is accepted, racism is euphemized, denied or negated” (p. 145) frequently by nurses.

Campesino (2007) calls for researchers to be mindful of constructs which give rise to deep forms of “structural blindness” when dealing with topics that invoke issues of gender, class, and ethnicity. Such an approach “assumes the locus of normalcy is white Western culture” (p. 302), and Campesino urges researchers to become more self-reflective about their own biases and assumptions in order to achieve clarity in thinking about how attitudes toward power and privilege frame perceptions about cultural competence.

Competence versus Humility as overarching paradigms

When referring to the clinician’s responsibility in cultural exchanges, the term *competence* has been deemed to be inapt by several authors (Chang, Simon, & Dong, 2012; Tervalon & Murray-Garcia, 1998). Competence implies fluency or mastery of critical quantifiable evidenced-based skills typically identified with safety and quality of care (Gustafson, 2005). Use of the term in this context identifies *competence* as an endpoint and in educational practice, often an “add- a-lecture-test-for-knowledge curricula response” (Wear, 2003, p. 550). The term *cultural humility* is preferred by some (Chang, et al., 2012; Tervalon & Murray-Garcia, 1998) as it conveys a *process* rather than an *endpoint*, and a recognition of the need for self-reflection, listening, learning, and partnership-building in multicultural relationships (Tervalon & Murray-Garcia, 1998). On the other hand, not all models which use the term *cultural competence* imply that it is an endpoint. Campinha-Bacote (2002), for example, stresses that health care provider should view themselves as continually in the process of *becoming* culturally competent, as it is a

“process, not an event” (p. 181).

Instruments to Measure Cultural Competency

The effect of the lack of commonly agreed-upon premises of cultural competence and the potential for structural blindness inherent in prevalent theories and perspectives of the construct can be seen in existing instruments designed to test theoretical assumptions (Kumas-Tan, Beagan, Loppie, MacLeod, & Frank, 2007; Loftin, Hartin, Branson, & Reyes, 2013). A systematic review by Kumas-Tan, et al. (2007) examining 10 of the most widely used instruments to measure cultural competence in health care identified a number of hidden assumptions, raising important concerns about their overall reliability and validity. The authors identified the following problems in the instruments reviewed: a.) a restricted definition of “culture” with a tendency to associate culture primarily with race and ethnicity; b.) the use of questions normed on white, middle class, highly educated populations, with an implicit acceptance of the view that “culture” is an attribute of an ethnic and racialized “Other”; and c.) that culture is frequently framed as a “confounding variable” that white practitioners must learn to deal with.

The authors also note that most instruments are based on a conceptualization of “competence” as an endpoint in a knowledge-based continuum. Prejudice and bias from this viewpoint are attributable to a lack of exposure and therefore a lack of knowledge of other groups. From this perspective, the remedy seems simple: increase exposure to these groups, and the “problem” will cure itself. Several instruments, for example, ask about the frequency of exposure to minority individuals, never addressing the *quality of the interaction* with those individuals.

Another assumption identified in instruments reviewed by the authors is that “cultural competence” is analogous to and can be measured by the level of confidence and comfort the

respondent feels with cross-cultural interactions. To the contrary, the authors point out that the confidence and comfort ascribed as markers of competence could potentially be an indicator of an unequal power differential in the relationship one has with others, and indeed a marker of lower insight awareness on the part of the respondent.

In summary, although the concept of cultural competence has gained substantial attention and prominence within the health care community in recent years, numerous problems have been identified as a result of disputed theoretical premises as well as a lack of reliability and validity of instrumentation (Kumas-Tan, et al., 2007). These factors suggest there is considerable work ahead to advancing the state of the science in this domain. Because the focus of this study is to develop a scale that measures the patterns of interaction that Yoder (1993) proposed, we will concentrate on social interactions between faculty and URM students rather than cultural competency.

Conceptual Framework

Grounded Theory and Symbolic Interactionism

Yoder's (1993) grounded theory entitled: Instructional Responses to Ethnically Diverse Nursing Students, will undergird this study. The choice the author makes of conducting a grounded theory method reveals the philosophical assumptions that underpin her study. Grounded theory arises from a pragmatic philosophic tradition – specifically symbolic interactionism (SI) – which posits that meaning is a social construct, formed and defined through people as they interact with one another (Blumer, 1969; Jeon, 2004). *Culture*, whether defined as custom, tradition, norm, value or rules, is derived from what people do. Social organization and attributes (social structure, social position, status, authority, prestige, etc.) are rooted in how people *act* towards each other. Thus, society and social structure become dynamic, continually

evolving phenomena, arising from and defined by the interactions of its members (Blumer, 1969).

Key to the perspective of SI is the assumption that multiple meanings are operative whenever individuals interact. This assumption is particularly salient when attempting to clarify the intersubjective dynamics and social constructs at play in interactions between nursing faculty and URM nursing students. Consider, for example, the scenario of a nursing student, recently immigrated to the US, who *seems* unable or unwilling to make eye contact with patients or faculty. If this phenomenon were examined from the perspective of SI, close observations of the researcher might reveal that gestures – in this case lack of eye contact – might have vastly different meanings for the student on one hand, and for a faculty member on the other, because of the historical and cultural context each brings to the situation. The success the student and faculty member are able to achieve in understanding the meaning of each other's gestures may be central in determining the success of many future interactions between them.

There are three basic premises upon which SI rests, having to do with *meaning*, *language*, and *thought*. They are: (a) *Humans act towards things in their environment on the basis of the meanings that things have for them;* (b) *Language and symbols give humans a means with which to communicate meaning, creating a situation where the individual meaning of a thing is derived from or arises in large part out of interactions with others;* and (c) *Meanings are handled in and through an interpretive process used by persons in dealing with things that he or she encounters* (Blumer, 1969).

Yoder's Grounded Theory

Yoder (1993) conducted open-ended interviews using constant comparative analysis (Strauss & Corbin, 1990) with nursing faculty and ethnically diverse nursing students to

formulate her grounded theory. Although Yoder uses the term ethnically diverse nursing students, for consistency we will continue to use the term URM nursing students. Specifically Yoder wanted to know the following: (a) “How nurse educators manage teaching students URM nursing students?” (b) “What are the conditions, strategies, and consequences of the process of responding URM nursing students”, (c) “What are the patterns of variation in the process of responding?” and “What are URM student nurse perceptions about the actions/interactions they experienced as students?” (Yoder, 1993, p.7)

Some major findings of her study include the following:

- A student’s ethnic or cultural group can influence their perceived needs and create conflicts when adjusting to the learning environment.
- Nurse educators differ in the way that they manage and interact with URM nursing students.
- When interacting with ethnically diverse nursing students, faculty send cues to students about how receptive they are to student needs.
- The primary factor influencing faculty response to URM student’s cues is their cultural awareness.
- Cultural awareness involves the recognition of cultural issues that affect the interactional instructive process.

A core component of Yoder’s theory concerns the degree of cultural sensitivity faculty use when interpreting and responding to URM students’ social cues. The interactive process has three components. First, students send cues (both verbal and behavioral) which are significantly influenced by the student’s cultural background and are generally an expression of the student’s needs and perspectives. Second, faculty interpret these cues, and third faculty respond to student

cues based on their level of cultural awareness. The author draws on a definition of cultural awareness by Kavanagh (Kavanagh & Kennedy, 1992) and Kennedy (1992) which is defined as the recognition of cultural issues or problems that affect the interaction process.

According to Yoder's theory, cultural awareness can be shaped by many complex factors including experiences that occur at the community, national and international levels. However, a person's cultural awareness according to this theory is shaped primarily by one's lived experiences which influence experiential rather than intellectual knowledge. Factors that form the person's experience which shape cultural awareness include, for example, experiences such as the cultural background of the educator, the amount of engagement the educator has had in diverse settings, and personal experiences that enable the educator to identify with the minority status of the URM student. According to this theory cultural awareness can be increased by "sensitivity raising experiences" (Yoder, 1993, p. 73) which increase the person's self-awareness and self-reflection including, but not limited to formal educational preparation, workshops, faculty development within an institution, and personal reading.

Although the theory has several components, the most essential and highly developed of these are the five patterns of faculty responses. Other components of the theory are less developed and could serve as a basis for future research.

The Five Patterns of Faculty Interactions

The five patterns of faculty responses that were identified through the data represent the primary style of interacting or method of teaching that nursing faculty use when interacting URM students. Faculty may express one or more of these styles of interacting depending on the circumstances and setting at a given time. Table I details the five patterns of responding that will be used to guide item development (and the interview guide).

Table I
Yoder's Theory of Faculty Cultural Awareness and Patterns of Interaction with Culturally Diverse Nursing Students

Pattern of Interaction	Description	Self-Awareness of cultural characteristics	Identifies barriers experienced by students	Strategies used with diverse students
<i>Generic pattern</i>	Low level of cultural awareness. Described in the study as a predominant mode of faculty by students in the study.	Little self-awareness about one's own distinct cultural heritage.	Saw very few needs that differ from students in general.	Student feels invisible, culturally isolated, pressure for conformity, devalued cultural perspective, and that their unique strengths are overlooked. There was evidence that students with low level needs may find this pattern adequate.*

Table I (cont.)

Yoder's Theory of Faculty Cultural Awareness and Patterns of Interaction with Culturally Diverse Nursing Students

Pattern of Interaction	Description	Self-Awareness of cultural characteristics	Identifies barriers experienced by students	Strategies used with diverse students
<i>Culturally non-tolerant pattern</i>	Identified in faculty data but not in student data. (All other patterns identified in both student and faculty data.) Descriptions by students included intolerance, insensitivity to student problems, viewing ethnic students as culturally deprived.	Not identified in faculty data	Not identified in faculty data	Students report feeling increased stress and anxiety, loss of confidence, damaged image as an ethnic nurse, feeling devalued because of minority status, lack of support to deal with barriers. *Student observations confirmed by observations of Bridging Faculty
<i>Mainstreaming Faculty</i>	High levels of cultural awareness. Culture and ethnicity are viewed as important factors influencing student success. Students are expected to assimilate into the mainstream to maximize success in the nursing program	Identified in the study as ethnic faculty of color who have learned how to be successful in the dominant culture. They value ethnic students and feel a strong commitment to assist them. View themselves as "cultural insiders"	Identify many barriers of ethnically diverse students and attribute the barriers to deficiencies of the students when entering the program. They advocate for more remedial activities and more preparation so that students can better "function" and adapt to the program. Two strategies used are to: 1.) Teach the norms of the school and profession, and 2.) Coach students to re-pattern behavior to meet expectations of the dominant culture.	Students feel individually noticed and acknowledged (not invisible). However, consequences for students are seen as otherwise similar to the Generic pattern which include: pressure to conform, feeling cultural perspectives are devalued, loss of ethnic identity, and unacknowledged barriers. Expectations are clear and faculty serve as role models to guide them through the process of assimilating.

Table I (cont.)

Yoder's Theory of Faculty Cultural Awareness and Patterns of Interaction with Culturally Diverse Nursing Students

Pattern of Interaction	Description	Self-Awareness of cultural characteristics	Identifies barriers experienced by students	Strategies used with diverse students
<i>Struggling Pattern</i>	High levels of cultural awareness on an intellectual level. Described as being in a state of creative confusion.	Often work in ethnically diverse settings faculty are in the numerical minority. Some faculty have extensive multicultural experience while for others their multicultural setting is a new experience. Little educational preparation in cross-cultural issues.	Largely from European-American backgrounds. The experience in a diverse setting (often as a minority in that setting) leads to new insights, attitudes and cultural awareness. Cultural awareness of each faculty member varies but they express an openness to learning about the barriers to learning experienced by ethnically diverse students and they experiment with alternative teaching strategies to address these needs. Identified strategies to address barriers include: 1.) Avoiding exposing and protecting students from clinical situations that might expose students to unfavorable racial and ethnic stereotyping, 2.) intervening on behalf of the student with patients and staff to buffer any potential student experience with prejudice, 3.) control selection of clinical sites to avoid potential situations noted above.	Many of the expressed needs of diverse students are identified and understood by struggling faculty. Some identified needs are effectively addressed. Some of the cues are noticed and interpreted by faculty. Responding to diversity is felt to be easier for some faculty than others.

Table I (cont.)

Yoder's Theory of Faculty Cultural Awareness and Patterns of Interaction with Culturally Diverse Nursing Students

Pattern of Interaction	Description	Self-Awareness of cultural characteristics	Identifies barriers experienced by students	Strategies used with diverse students
<i>Bridging Faculty</i>	High level of cultural awareness on an intellectual and experiential level. The faculty identified in this group were identified as ethnic minority. Bridging faculty are open to considerations of racism, prejudice and work to include cultural beliefs and values and experiences of students in the classroom.	They are characterized by the following 1.) experience as an ethnic minority, 2.) valuing diversity, 3.) identification with the students' experiences, and 4.) formal educational preparation with issues related to cultural diversity	Interpreting student cues involves: 1.) assessing cues students send, 2.) identifying cultural problems, 3.) identifying barriers students face. Bridging faculty recognize that cultural frames of reference for students can affect a wide range of important areas of their educational experiences such as basic definitions of health and wellness, relationships with faculty and learning styles. Faculty work to actively enhance students' ethnic self-concept by providing contact with successful role models and encouraging students to function bi-culturally. Faculty work to address barriers by permitting expression of problems related to prejudice and discrimination and counseling students to develop strategies to address those barriers in a collaborative, problem solving manner and by advocating for system change.	Demonstrate high levels of responding to student cues and needs. Many of the student cues are noticed, interpreted and acted upon. This approach results in an educational environment which is welcoming and comfortable for ethnically diverse students and one in which their perspectives and concerns are valued. Cultural differences are viewed as an asset rather than a liability or deficiency.

Methods

Design

A sequential multi-method approach will be used to develop The Scale. The eight-step guidelines for instrument development described by (DeVellis, 2012)DeVellis (2012) will be used (see Table 2). The specific aims of the study are to (a) Identify scale items that are indicators of nursing faculty responses and patterns of interactions URM nursing students. (see Step 1); (b) conduct content validity procedures (face validity and content validity index assessment) of The Scale (see Steps 2-3); and (c) conduct preliminary psychometric testing of The Scale (see Steps 4-8).

Table II

Overview of Activities for Developing The Scale

Step, Activity & Timeline	Method	Sample/Source	Analysis
<p>Step 1: Determine clearly what it is you want to measure Estimated Time: Months 1-4</p>	<p>▪Focus groups Note: Yoder's five patterns of educator responses forms the conceptual basis for this scale. Data generated from review of the literature will be used to supplement the qualitative data generated in step .</p>	<p>▪Focus group of 5-6 URM nurses who have graduated within 18 months. ▪Two Focus groups with 5-6 nursing faculty for each who have at least 6 months experience teaching URM nursing students Data from <i>Instructional Responses to Ethnically Diverse Nursing Students</i> (Yoder, 1993) and other published articles</p>	<p>▪ Qualitative content analysis will be used to analyze focus group and interview data to generate items that fit the 5 patterns identified by Yoder. We will be looking for new patterns or data that do not fit Yoder's patterns in order to expand this work and make the scale comprehensive.</p>

Table II (cont.)

Overview of Activities for Developing The Scale

Step, Activity & Timeline	Method	Sample/Source	Analysis
Step 2: Generate an Item Pool Est. Time: Month 5	Draft items based on synthesis of theory, literature and conceptual areas identified in Step 1	PI in collaboration with dissertation chair will generate 40-60 items, based on the qualitative findings.	▪Face validity will be determined by asking 3 expert nursing faculty to review the items and provide an initial impression about how well the draft items represent the content domain.
Step 3: Determine Format for Measurement Est. time: Month 1-4	▪Review different response options with faculty during focus group interviews. ▪Evaluate existing response formats	▪Nursing faculty who participate in the focus group will be asked to select the preferred response option from several potential options.	▪ Content analysis to assess subjects' format preference
Step 4: Expert Review of Initial Item Pool Est. time: Month 7	▪Expert panel review of preliminary draft of the scale items.	▪Expert panel (n =7) to include: 3 nursing faculty working with URM students 1 expert nurse researchers familiar with scale development 3 URM nurses	▪ Calculate Content Validity Index (CVI). ▪ Discard or reword items based on analysis from expert panel.
Step 5: Pilot test The Scale Inclusion of validation items Est. time: Months 8	▪Administer on-line (a) The Scale via Survey Monkey (b) demographic questionnaire (c) social desirability scale (d) M-APALS scale	▪Administer to 10 nursing faculty This cohort will not be included in steps 6-7	▪ Evaluate response rate ▪ Identify any problems with individual items ▪ Make changes based on pilot responses

Table II (cont.)

Overview of Activities for Developing The Scale

Step, Activity & Timeline	Method	Sample/Source	Analysis
Steps 6 & 7: Administer The Scale to a developmental sample. Evaluate items Est. time: Month 10	<ul style="list-style-type: none"> ▪ Administer final version via online Survey Monkey ▪ Perform test-retest with 25 faculty members who agree to complete the scale again in 2-4 weeks 	600 Nursing faculty in Massachusetts with publically available email addresses	Item analysis: <ul style="list-style-type: none"> ▪ item to scale correlations ▪ item variance ▪ item mean ▪ distribution ▪ Internal Consistency Reliability ▪ Test-Retest Reliability ▪ Exploratory Factor Analysis of scale and subscales ▪ Correlations of The Scale with social desirability and the Modified Adapted Principles of Adult Learning Scale (M-APALS) and demographic data
Step 8: Optimize scale length Est. Time: Months 11-12	<ul style="list-style-type: none"> ▪ Refine scale based upon psychometric data 	Developmental sample (above)	<ul style="list-style-type: none"> ▪ Item analysis, scale reliability assessments

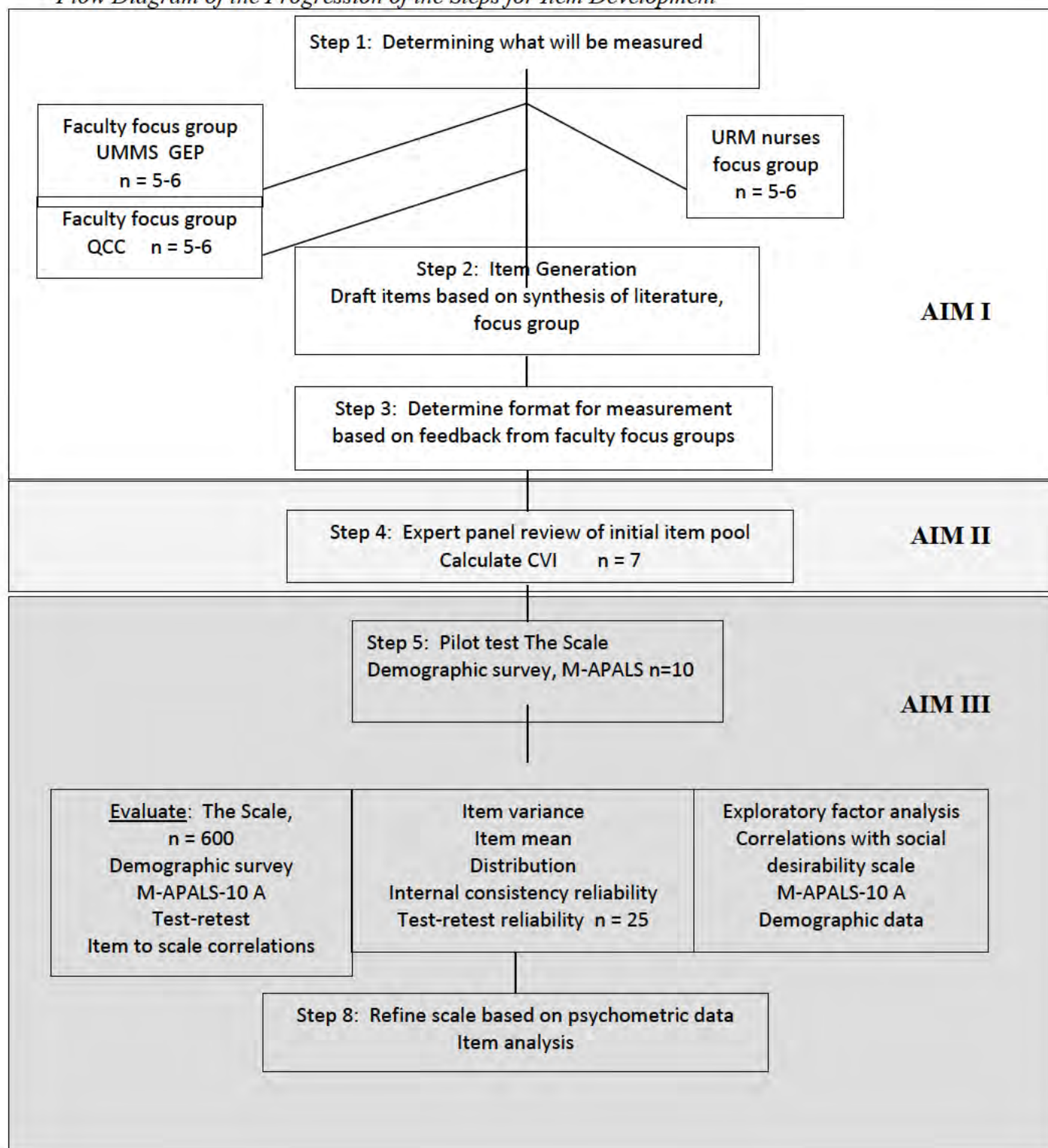
Adapted with permission

Source: Bova, C. (n/d)

Focus Group: Sample Procedures and Analysis Procedures

Table III

Flow Diagram of the Progression of the Steps for Item Development



IRB approval from UMMS will be obtained prior to beginning the study. A fact sheet describing the risks associated with the study will be given to focus group participants (see Appendices A and C). Consent will be obtained prior to focus interviews.

A request of documentation of informed consent will be requested for all study participants since this is a minimal risk study and the name on the consent would be the only way to link data back to participants once the audio recordings of focus groups are destroyed (see Procedures for focus group below). The audio recordings will be destroyed immediately after transcripts are compared to the recordings and verified for accuracy.

Survey Monkey will be used as a platform for Steps 5, 6, & 7. An online email/fact sheet describing the purpose of the project and efforts to protect confidentiality will be provided at the beginning of the survey (see Appendix D).

Focus Groups: Participants, Setting, and Recruitment

Sample

For Step 1 the focus group participants will include three separate groups: (a) URM nurses and (b) two faculty focus groups – one which will consist of 5-6 faculty from Quinsigamond Community College (QCC) and the other will consist of nursing faculty from the University of Massachusetts Medical School Graduate Entry Pathway (UMMS GEP) program.

The URM nurse participants will consist of a purposive sample of 5-6 URM nurses who have graduated from a pre-licensure program within the past 18 months. Participants will consist primarily of former graduates of QCC who are identified as key informants based their insightfulness to the issues. Snowball sampling will be conducted if needed. Recruitment will consist of contacting (by email or phone) graduates of the QCC ADN program known to meet the inclusion criteria. Interested individuals will then speak by phone with the PI to discuss the

aims of the study. A fact sheet detailing the study will be emailed to prospective participants (see Appendix A).

Inclusion/Exclusion Criteria (URM Nurses)

Focus group participants will be eligible if they meet the following criteria: (a) nurses who are willing to provide informed consent; (b) nurses who have successfully graduated from a pre-licensure program in the U.S leading to an accredited Associate Degree in Nursing (ADN) program, Bachelor of Science in Nursing (BSN) program, or a direct entry program leading to an advanced nursing degree, and who and have completed the pre-licensure component of their program within 12 months; and (c) nurses who self-report that they belong to one of the URM groups (i.e. African, African-American, Hispanic, Asian, American Indian, and Alaskan native). URM nurses may be employed or currently unemployed, and if snowballing sampling is conducted, participation will be open to those URM nurses who have graduated from nursing programs in states other than Massachusetts.

Nurses who have graduated from non-US nursing programs will be excluded because this study attempts to identify attitudes and behaviors of US nursing faculty when interacting with URM nursing students. Participants will receive a \$25.00 gift certificate as an expression of appreciation for their participation in the study.

Nursing faculty will be recruited for the focus group by a general emailing to all nursing faculty at QCC ADN and the UMMS GEP program who meet the inclusion/exclusion criteria below (see Appendix B) Prospective participants will receive a fact sheet (see Appendix C).

Inclusion/exclusion criteria (nursing faculty)

The inclusion/exclusion criteria for nursing faculty will be kept consistent throughout all phases of the study (Steps 1, 5, 6, and 7). Participants will be eligible if they meet the following

criteria: (a) nursing faculty teaching full or part-time in a clinical and/or classroom nursing educational setting in a variety of pre-licensure programs, including Associate Degree (AD), Bachelor's Degree in Nursing (BSN), Second-Degree BSN, as well as various accelerated programs leading to an ADN, BSN, or direct-entry advanced nursing license; and (b) faculty who have taught at least 6 months in one of the above programs.

Faculty who happen to be RN's or who hold advanced nursing degrees, but are teaching in programs other than in nursing will be excluded. Every attempt will be made to recruit URM faculty to participate in this study. Prospective participants will be offered the opportunity to participate in a "raffle" to win one of two Amazon \$100 gift certificates as a thank you for participating in this study. Participants who are interested in the raffle will submit their names to the PI via email.

Setting

QCC

The setting for this study for faculty individual interviews will be the QCC ADN program and the UMMS GEP program. The two programs are located approximately 3 miles apart in Worcester, Massachusetts. Both programs are part of the Massachusetts public higher educational system.

QCC serves approximately 13,000 students annually and offers over 70 associate degree and certificate options in a range of program areas including business, technology, liberal arts, and health sciences. The associate degree of nursing (ADN) program consists of both a day and an accelerated evening programs and enrolls approximately 185 students yearly. Approximately 25-30% of those students meet the criteria for URM nursing students. There are 20 full and approximately 25 part-time faculty. Approximately 5% of the total faculty are male and 95% are

female. Currently no faculty at this institution self-report having URM status.

The University of Massachusetts Medical School (UMass Worcester) consists of the School of Medicine, the Graduate School of Biomedical Sciences, and the Graduate School of Nursing, and serves approximately 519 students. The GEP enrolls 32 students annually who have bachelor's degrees (or higher) in fields other than nursing. The program leads first to a RN degree and then a graduate degree in advanced practice nursing (APN). There are approximately 17 full and 31 part-time faculty. Approximately 15-20 percent of students self-report as having URM status.

Procedures

Focus groups. The focus groups will be kept at a small number (5-6 participants) to foster greater group identity and facilitate sharing ideas and information-rich discussions (Krueger & Casey, 2009). Each face-to-face focus group is expected to last 60 minutes. The group will meet in a central location such as the Graduate School of Nursing (GSN) conference at UMMS or QCC where privacy and confidentiality can be assured. Focus group location, time and date will be determined by group consensus. Participants will receive individual appointments, with a reminder message sent several days before each scheduled appointment.

Interviews will be conducted with the aid of a semi-structured guide developed from the assumptions of Yoder's theory (see Appendices E and F) with the goal of generating scale items that capture the 5 patterns of faculty interaction. Questions will be open-ended, and logically sequenced to put people at ease and maintain the interaction according to the recommendations of Krueger & Casey (2009). Core questions will be theoretically based and designed to elicit moderately flexible responses. The PI will maintain the option to prompt or reword questions to keep the interview focused (Krueger & Casey, 2009). The focus group discussion will be

moderated by the PI, audio-recorded, and a note-taker will be present. Immediately after the focus group session, the PI will debrief with the note-taker using 5 questions developed by Krueger and Casey (Krueger, 1998) to develop a more complete picture of the topics that were identified and significant interactions that may have taken place. These questions are: “What are the participants saying?”; “What are they feeling?”; “What is really important?”; “What are the themes?” (Krueger, 1998, p. 83). The debriefing will be audio recorded and transcribed. Participants will be identified in the debriefing by their randomly assigned study number and their seating arrangement.

Data Management of Focus Group

Audio tapes for the focus groups will be transcribed verbatim and final notes made to include any observed non-verbal responses as well as information about group climate (Krueger & Casey, 2009). The PI will review the tapes with the assistance of the note-taker to identify significant quotes, tone and context of the quotes taken, and identification of body language that may have occurred during the discussion.

Trustworthiness of Data

Trustworthiness will be established using the four requisite criteria of credibility, confirmability, dependability, and transferability (Lincoln & Guba, 1985). Briefly defined, credibility concerns the level of confidence that can be established about the “truth” of the findings, and how free the findings are from researcher bias and distortion. *Credibility* will be assured through participant member checks, continued engagement with the data through reading and re-reading the transcripts, field notes; an iterative data-to-theory comparison, persistent observation (mixed methods); negative case analysis (searching for potential contradictions to the theoretical assumptions proposed by Yoder).

Transferability refers to the applicability of the findings to other contexts. Transferability will be enhanced by purposive sampling of the focus groups in an attempt to achieve maximum variation sampling, and through the design of the focus group guides which are intended to generate a wide variety of responses regarding the phenomena of interest.

Confirmability concerns the degree to which the findings reflect the respondents' perspectives and not the biases and influences of the researcher (Lincoln & Guba, 1985). Dependability concerns the assurance that the findings are consistent and able to be repeated (Lincoln & Guba, 1985). Confirmability and dependability will be assured through transparency of data collection and methods, and maintaining a detailed audit trail of raw data and methodological notes taken during interviews, with reference to transcripts of audit sessions.

Data Analysis

Data will be analyzed using approaches elaborated by Krueger (1998). Significant words used and the context that triggered them will be noted along with the internal consistency of the opinions that emerge. The frequency, extent, and specificity of comments will be taken into account, as well as a consideration of topics attenuated or avoided (what was not said). Major overarching themes will be identified, compared with the theoretical framework for consistency, and coded for purposes of item generation. Following transcription and the preparation of the report, the recordings of focus group sessions will be destroyed, so participants can only be identified by number, assuring confidentiality.

Item generation

The PI will generate items (in consultation with the dissertation chair) for all dimensions identified in the theory and verified in Step 1. The items generated will represent a synthesis of theory, literature review, and any conceptual areas that were identified through the qualitative

interviews in Step 1. Specific language used by the nursing faculty participants in Step 1 will be used whenever possible to enrich item validity. DeVellis (2012) recommends assembling at least three to four times the number of items than expected in the final pool in order to achieve redundancy and to try to capture as many aspects and ways of describing the construct as possible. The final instrument has been estimated to consist of 4-5 questions per domain, for a total of 25-30 questions. With this total in mind, the PI will attempt to generate 40-60 items initially in order to assure a rich source of items from which to draw. The items will be reviewed by the PI and dissertation chair in an effort to minimize the effect of any ambiguity, items that convey two or more meanings (double-barreled items), confused wording, the potential for social desirability bias, and other concerns that may influence set bias.

Determining the Format for Measurement

A multiple step Likert scale response format is planned for the The Scale. A 5- or 6-response option set is generally recommended (DeVellis, 2012; Nunnally, 1978) to maximize the amount of discrimination within the item and therefore increase the scale's potential variance. However, DeVellis (2012) recommends that a variety of scales be tested to determine the respondent's ability to distinguish among discrete categories. Accordingly, one sample question will be prepared with three separate Likert response format options (4, 5, and 6 steps), and nursing faculty will be surveyed during their interviews in Step 1 for the response format they find easiest to respond to. The data from this procedure will determine the number of response steps in the initial scale. The selected format will be reassessed with the expert panel and the pilot group.

Expert Panel for Content Validity

Seven experts will be recruited to evaluate the initial pool of items for clarity and

relevance. The panel will consist of 3 nursing faculty who have expertise working with URM students, 3 URM nurses who have graduated within the previous year, and one expert nurse-researcher familiar with scale development. A cover letter containing the specific aims along with a review guide, which contains the theoretical underpinnings and conceptual definitions of the five patterns of faculty interaction with URM students will be sent to each panelist.

Instructions for completion and return of the instrument with criteria for content validation will be included (see Appendix G).

Panelists will be asked to complete the content validity assessment of the instrument and return it electronically via Survey Monkey within 2 weeks of receiving the materials. The response of the expert panelists will be used to quantitatively assess the relevance of the items to the concepts of the five patterns of faculty interaction (DeVellis, 2012). Necessary adaptations to the items will be determined from this feedback.

A *Content Validity Index* (CVI) will be calculated by asking participants to assess each item as to the item's clarity (yes/no), and to rate each item's relevance on a 4 point scale (1 = not relevant, 2 = unable to assess, 3 = relevant, but needs minor revisions, and 4 = very relevant). Items that have received a score below a CVI of less than .80 may be eliminated or re-worded based on feedback from the expert panel (DeVellis, 2012). Four to five irrelevant items will be included in the pool to evaluate expertise of the panel members. We anticipate that all experts will rate these items as not relevant to the scale.

Instrument Development: Sample, Procedures, and Analysis

Pilot testing

The next phase of this study will involve pilot-testing the newly-developed The Scale, demographic questionnaire, the Marlowe Crowne, and a cultural awareness or cultural self-

efficacy scale (see description below) to a sample of 10 faculty members. Factors to be evaluated at this phase will include the email procedures, response rate, and any problems that emerge with individual items. Final adjustments will then be made based on these pilot responses.

Measures

Demographic data will be collected on URM nurse focus group participants and nursing faculty. The demographic questionnaire for URM nurses will include questions about the nurse's age, gender, race, and ethnicity (see Appendix H). The faculty questionnaire will be the same for the nursing faculty focus group participants as well as the online participants (see Appendix I). Faculty will be surveyed about their age, gender, race and ethnicity, years teaching, estimated percentage of URM students they teach in a given year, and any specialized training they have received in cultural awareness or competence.

The short version of the Marlowe-Crowne Social Desirability Scale (MC-10 A) (Strahan & Gerbasi, 1972) will be used as a validity measure to evaluate the degree of social desirability bias in the respondents' responses. The MC-10 A contains 10 items which are designed to identify the tendency of respondents to distort their responses in the direction of social desirability in self-report instruments (Strahan & Gerbasi, 1972). Reliability of this abbreviated scale has been supported with the KR reliability coefficients that range from .59 to .70 (Strahan & Gerbasi, 1972). Although the MC-10 A has not been determined to perform as well as the full scale Marlowe-Crowne (Loo & Thorpe, 2000), it is considered useful for its brevity (DeVellis, 2012).

A modified version of the Adapted Principles of Adult Learning scale (APALS) (Liu, Qia, & Liu, 2006) will be used to establish (test) criterion-related validity. Several factors identified in the APALS appear to be highly congruent with Yoder's theory of faculty patterns of

interaction and therefore it was hypothesized that significant correlation may be found between components of the APALS and The Scale (see Appendix J).

The APALS is an updated and shortened version of the Principles of Adult Learning Scale (G.J. Conti, 2004) which was developed to test the teaching styles of adult educators. The PALS is based on the assumption that teaching styles are distinct qualities that reflect the educator's values and beliefs about their teaching role regardless of the content being taught. The scale has been used extensively in a wide range of educational contexts including nursing studies examining faculty teaching styles (Schaefer & Zygmunt, 2003). The PALS and the APALS essentially measure whether the educator shows a preference for a learner-centered or a teaching-centered approach to teaching.

The PALS is a 44-item self-report questionnaire that employs a 6-step Likert scale. Construct validity of this 7 factor scale was confirmed by a panel of experts and later validated by factor analysis (G.J. Conti, 1978; G. J. Conti, 1983). A reliability coefficient of 0.92 was reported using test-retest method (Conti, 1978, 1979). Construct validity was established by a panel of experts (Conti, 1978) and later followed up with factor analysis with a sample of n=509. The APALS was reduced to 26 items to reduce participant burden (Liu, et.al. 2006). Three factors of the APALS appear to be highly congruent with Yoder's theory. These are: Factor 3, Relating to Experience; Factor 4, Assessing Student Needs; and Factor 7, Flexibility for Personal Development. Thus, the modified version of APALS (M-APALS) used in this study will include the 11 items that make up the factors (see Appendix H).

Psychometric Testing

Procedures

The next phase of the study will involve administration of the revised version of The

Scale along with the demographic questionnaire, MC, and M_APALS scale via Survey Monkey to a developmental sample of 600 nursing faculty. Test-Retest will be performed with 25 participants who agree to repeat the scale 2 weeks after the initial administration.

Recruitment of faculty and setting for online testing of the scale

The sample of nursing faculty will be drawn from Massachusetts. Faculty will be recruited via email. The mailing will be sent to a range of large, middle-range and small public and private ADN, BSN and direct entry programs of nursing. Potential candidates will be recruited by identifying ADN, BSN, and direct entry programs that are accredited with either that Accreditation Commission for Education in Nursing (ACEN) or the Commission on Collegiate Nursing Education (CCNE) and obtaining email addresses from those nursing program websites. Prospective participants will be sent a one-page description of the study with specific aims and a general description of the exclusion/exclusion criteria for the study. There are currently 44 accredited pre-licensure programs in Massachusetts. Of this number, 19 are BSN programs and 22 are ADN programs. Several schools that offer BSN programs also offer Direct Entry Programs leading to an advanced practice degree. In addition there are 3 programs which offer Direct Entry pathways for pre-licensure candidates. Most of these programs contain publically available faculty email addresses on their websites.

Data Management

All data will be securely stored at UMMS GSN. Quantitative data will be double-entered and analyzed using SPSS 22.0. All data and digital study documents will be kept on a password-protected UMMS MAP research drive that is backed-up nightly. Data will be examined for marked skewness, outliers, and systematic data. Participants will be identified by a randomly assigned research identification number only and there will be no mechanism to connect the

participant's name with the identification number. The PI and dissertation chair will be the only people who will have access to this data.

Data analysis to determine internal consistency, test-retest reliability and preliminary validity of The Scale will consist of running item-to-scale correlations, assessment of item variance, item means, and the distribution of item scores. A Chronbach's alpha will be calculated for the entire scale, with the goal of achieving an alpha of .80 (DeVellis, 2012). Items will be discarded that have item-scale correlations of below 0.3, poor variability, a non-central mean, negative correlations among items, and weak inter-item correlations below the level of 0.3 (Nunnally, 1998). Items that reduce the alpha will also be discarded. An exploratory factor analysis will be conducted to determine whether the scales fit the theoretical underpinnings (construct validity).

Reliability estimates of the MC-10 A and M-APALS will be performed. Correlation of The Scale with the MC-10 A and the M-APALS, and the demographic questionnaire will be conducted. Analysis of the MC-10A and the M-APALS will be handled according to the instructions for each instrument.

Sample Size. The required sample size will depend on the number of items and subscales within the instrument. A minimum of 10 subjects per item is recommended (Devellis, 2012). The theoretical framework has 5 domains, so therefore an estimated 4-5 questions per domain would result in a minimum of 20 questions for the instrument. Based on this projected number of items, a sample size of 200 participants would be desirable.

Limitations and Challenges

The timing of the email request for faculty participation will also be critical, as it is important to send invitations to prospective participants at a time less likely to conflict with

faculty responsibilities. For example, we hope to begin recruiting participants by early October, as this may be a time when faculty typically are not feeling inundated by other responsibilities and may be open to participating. Finally, irrespective of sample size and timing considerations, there is always the risk of self-selection bias and that the faculty who agree to participate in the study for one reason or other may not fully represent the range of attitudes and beliefs reflected in the domains of Yoder's theory.

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Executive Summary

This study was conducted exactly as outline except for the following:

- Test -retest was not conducted. This was a conscious decision because we did not want to have to identify a portion of the surveys that were returned.
- The title of this instrument had gone through several iterations since the proposal. The current title was changed to reflect the construct of faculty engagement that was revealed during the results.

Redcap platform was used in place of Survey Monkey in Phase II for the pilot and developmental survey because the REDcap platform assured greater anonymity for respondents.

Development and Psychometric Testing of the Engagement of
Faculty with Underrepresented Minority Students (EFURMS)
Scale: A Measure to Evaluate Faculty Engagement with
Underrepresented Minority (URM) Nursing Students.

Dissertation Defense

11/18/15

Paula Moreau

Underrepresented Minority Students (URM)

➤ Defined as:

African

African American

Hispanic

Asian

Native American,

Alaskan Native

(OMB,1997)

Background and Significance

- The need for greater diversity in nursing
- URM student challenges well articulated through qualitative studies
- A radical transformation is needed in professional health education programs

The Gap

- Nursing faculty's role in promoting URM student success
- A grounded theory by Yoder (1993) identified patterns of engagement that faculty use when working with URM nursing students
- To date, no other studies focusing on these patterns, and no valid and reliable scales to measure these patterns

Purpose

The development of a reliable and valid scale to measure of nursing faculty responses to the needs of URM nursing students

Specific Aims

- Identify scale items that are indicators of nursing faculty response patterns with URM nursing students
- Conduct content validity procedures
- Conduct preliminary psychometric testing of the new scale

Theoretical Framework

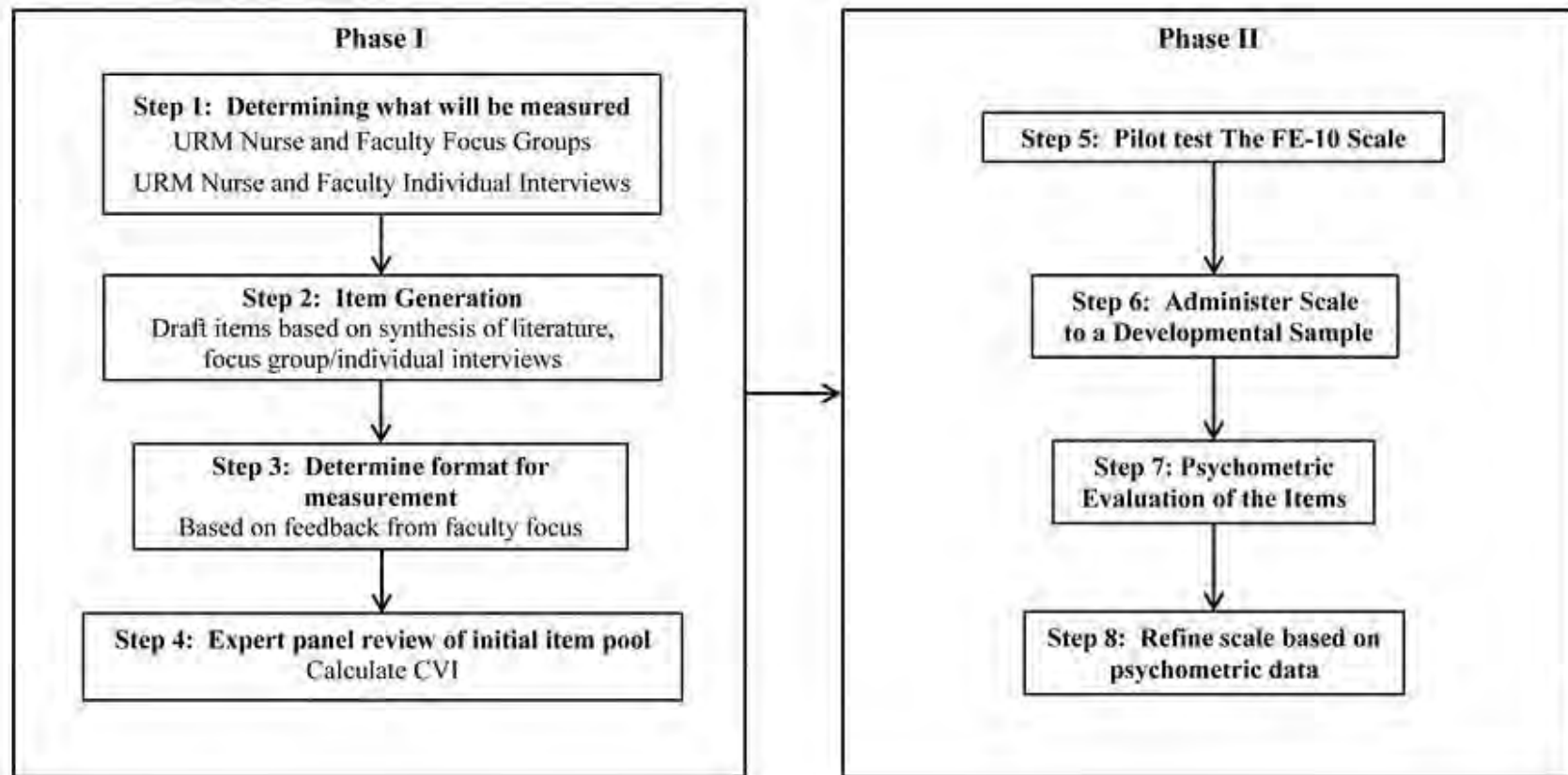
Yoder (1993)

- Grounded Theory
- identifies patterns of engagement faculty use when interacting with URM nursing students

Methods

- IRB approval was obtained for all phases of the study
- A sequential multi-method approach using the 8-step guidelines for instrument development (Devellis, 2012)

Steps for Item Development and Psychometric Testing



Step 1. Determining what items will be measured

- Purpose
- Focus Groups and interviews
 - URM Nurse N = 5
 - Faculty Focus Group N = 8
- Eligibility
- Methods (Krueger, 1994)

Demographics of URM nurses

N = 5

- Gender: 1 Male, 4 Female
- Ethnicity: 3 African, 2 Hispanic (born in US)
- Age range 23-47
- Type of program graduated from: 100% public ADN

Demographics of the Faculty Focus Group and Interview Participants

- N = 8
- Gender = 2 male, 6 Female
- White = 100%
- Age range 31-60
 - 5 = 51-60
 - 1 = 41-50
 - 1 = 31-40
 - 1 did not report age
- Rank = 2 Professors, 4 Assistant Professors, 2 Associate Professors
- Type of nursing program = 100% public, 6 ADN, 2 Direct Entry
- Years teaching = 7-31 years, M = 17 years
- Percent of URM students taught: 7 = 30%, 1 = 10%

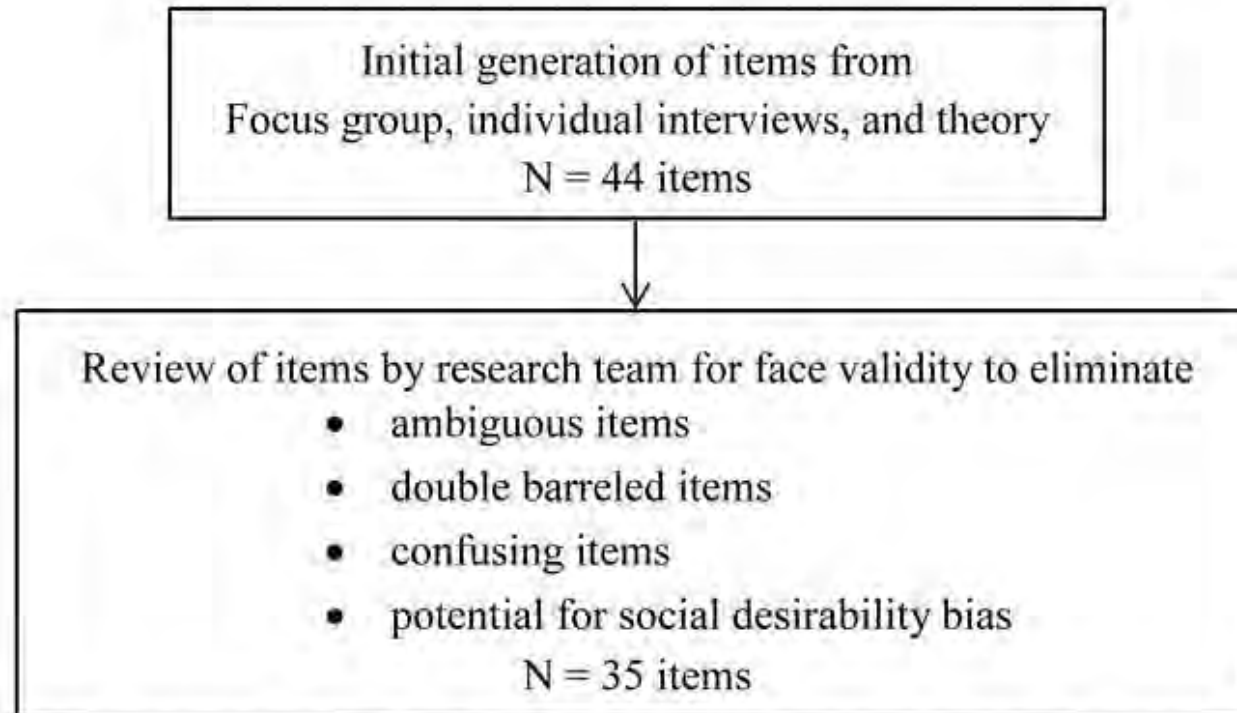
Step 2 & 3 Generation of Items and Determining the Format for Measurement

- Research team formed to:
 - Draft items
 - Review items for face validity
 - Finalize plans for the response format

- Items drafted by 2 members of the team
 - Using content analysis of the focus group and a synthesis of literature and the theory
- Reviewed for face validity by 3 members of the research team
- Response options were influenced by preferences the faculty focus group

Steps 1 and 2

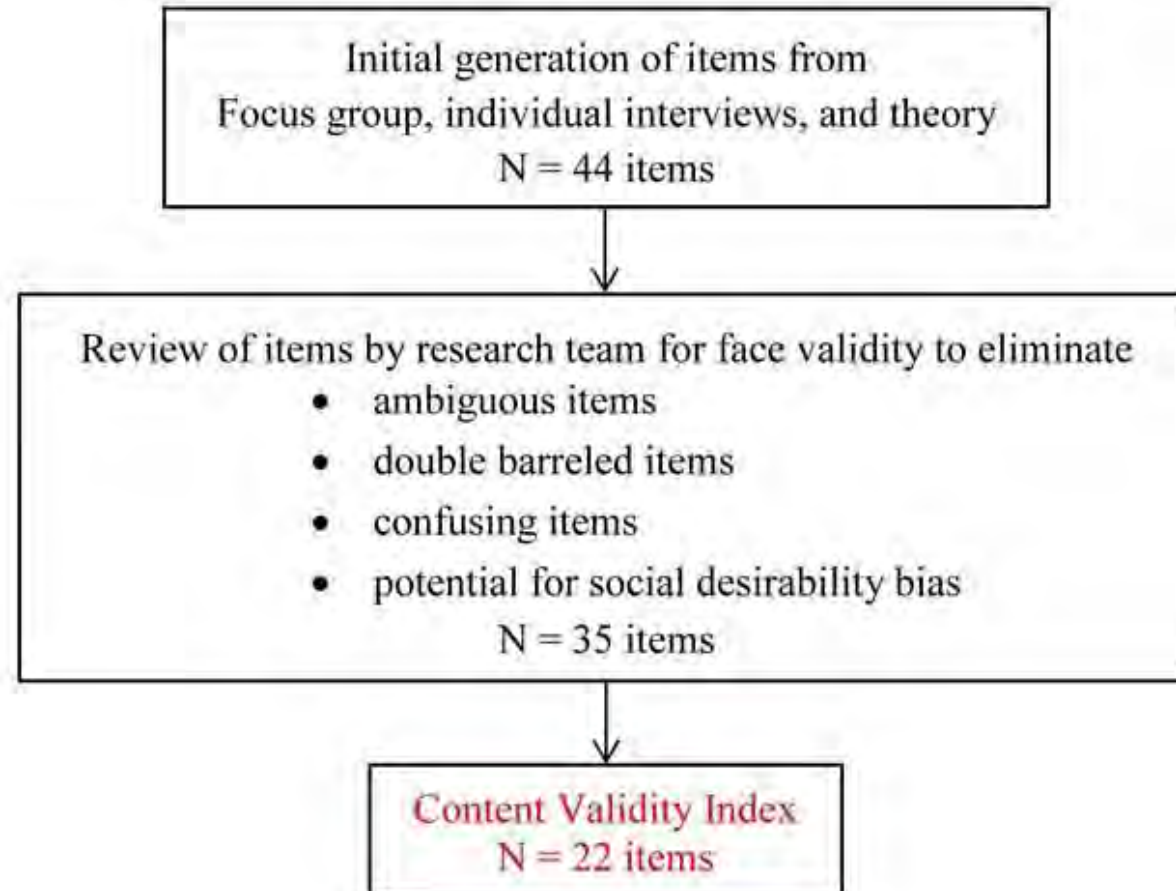
Item Generation and Refinement



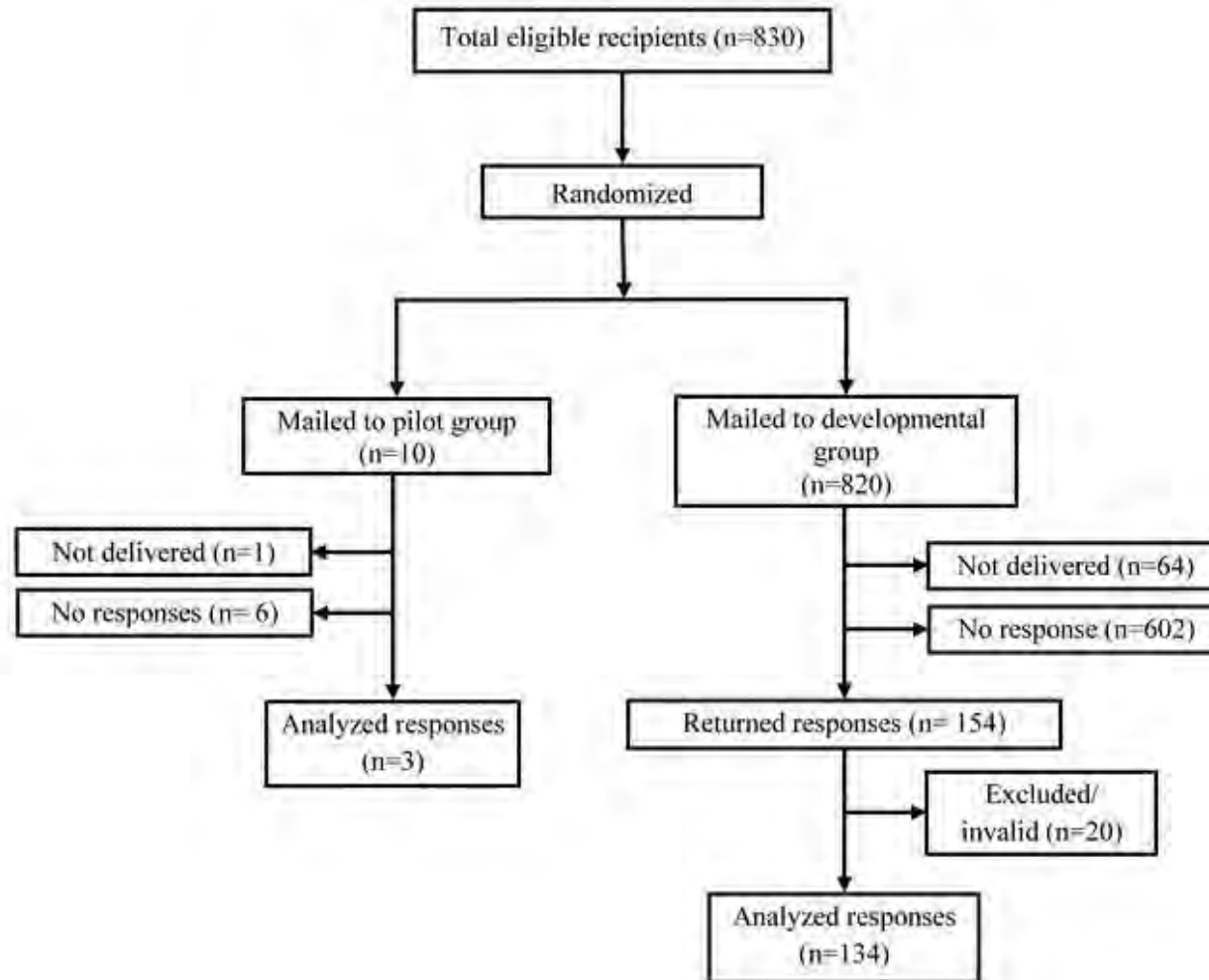
Step 4. Expert Panel Review of Initial Item Pool Calculate Content Validity Index (CVI)

- Expert panel N = 8 (3 URM nurses, 4 nursing faculty, 1 expert nurse researcher)
- Each item scored on the basis of the following:
 - *Clarity*: Yes/No
 - *Relevance*: Not relevant = 0; Somewhat relevant = 1, Mostly relevant = 2
- Result: Total CVI = .81

Step 4



Sample for Pilot and Developmental Psychometric Evaluation



Types and Number of Pre-licensure Nursing Programs Surveyed

Programs	N = 44
BSN Programs	19
ADN Programs	22
Direct Entry	3

Measures

- The 22-item scale
- Demographic questionnaire
- Marlowe Crowne (Strahan and Gerbasi, 1972) - social desirability bias
- Adapted Principles of Adult Learning (APALS) (Conti, 1978)
- criterion-related validity
- *Relating to Experience*
- *Assessing Student Needs*
- *Flexibility for Personal Development*

Step 5. Pilot Testing

- Purpose: Evaluate response rate, identify any problems with individual items, and to test our procedures

- Contents of the invitation
 - Fact sheet, specific aims, inclusion/exclusion criteria, potential risks of participating, estimated time to complete the survey

- Link to survey
 - 22-item survey
 - Marlowe-Crowne
 - APALS
 - Demographic questionnaire

Step 6

Administration of the Developmental Sample

- Purpose: Preliminary psychometric testing which provided data for the refinement of the scale.
- Contents of the invitation
 - fact Sheet, specific aims, inclusion/exclusion criteria, potential risks of participating, estimated time to complete the survey
- Link to survey
 - 22-item survey
 - Marlowe-Crowne
 - APALS
 - demographic questionnaire

Psychometric Testing

- Item variance, item mean, item distribution
- Item-to-total scale correlations
- Internal consistency reliability (Cronbach's alpha)
- Exploratory factor analysis (construct validity)
- Correlations of the new scale with Marlowe-Crowne (short version) and APALS (criterion-related reliability)

Item-to-Total Correlation (ITC)

- Individual item analysis was performed on the 22-item scale

- Items with an item-to-total correlation (ITC) of $<.40$ were removed
 - after checking that removing would *not* affect the overall reliability of the scale
 - after checking whether removal supported theoretical considerations

- This process resulted in a 10-item scale

The EFURMS Scale

Please answer each question according to your own opinion and teaching experience over the past year.

	None of the time	Some of the time	Most of the time	All of the time
	0	1	2	3
1. I have worked to change institutional practices that may negatively affect the success of URM students	0	1	2	3
2. I have intervened on behalf of URM students who were misunderstood because of their cultural background	0	1	2	3
3. I have worked to increase the recruitment of minority faculty	0	1	2	3
4. I specifically ask URM students to share their cultural experiences with their classmates.	0	1	2	3
5. I ask URM students about their cultural background	0	1	2	3
6. I try to introduce URM students to positive role models who are from similar backgrounds.	0	1	2	3
7. I actively search for articles about how to improve my teaching skills with URM students	0	1	2	3
8. I am confident in my ability to meet the needs of URM students.	0	1	2	3
9. I am unsure about best teaching strategies to address the needs of URM students	0	1	2	3
10. I feel unprepared when trying to meet the needs of URM students	0	1	2	3

Results: EFURMS - Some Highlights

- $CVI = .84$
- Internal Consistency Reliability $\alpha = .81$
- Score range = 0-30, mean 16.8 (SD 5.7)
- No floor or ceiling effect (0-5 range = 3.3%), (26-30 = 5.4%)
- Weak correlation with the Marlowe-Crowne (social desirability) Spearman's $Rho = .19$ ($p=.03$)

Results: EFURMS - Some Highlights

- Higher scores correlated with two subscales APALS for criterion-related validity measured by Pearson's r
 - *Relating to Experience* $\alpha = .74; r = .36 (p = .000)$
 - *Assessing Student Needs* $\alpha = .65; r = .42 (p = .000)$

- *Personal Development* $\alpha = .59$

Demographic Results

Table 2

Summary of correlations of EFURMS Scale and Variables of Age, Years Teaching, and Years Working with URM students

Measure	Age	Years working with URM nursing students	Years teaching
EFURMS scale	$r = .32^*$	$r = .43^*$	$r = .43^*$

$P = < .01$

T-tests variables of Age, Years Working, Years Working with URM Students

Variable	Comparative Variable	Mean	t	df	p
Age	50 and older	17.27	-2.6	121	.003
	under 50	15.27			
Years Teaching	25 years and over	19.71	-3.9	121	.001
	Under 25 years	15.84			
Years Teaching URM students	25 years and over	19.21	-3.39	121	.001
	Under 25 years	16.23			

Comparative T-Test of URM and Non-URM Faculty Status

Variable	Comparative Variable	Mean	t	df	p
URM Status	URM faculty	23.3			
	Non-URM faculty	23.9	2.86	121	.776

Factor Analysis

- The Kaiser-Meyer-Olkin (KMO = .738), and Bartlett's Test of Sphericity ($p = .000$) adequate for performing factor analysis
- Principal components factor analysis with varimax rotation revealed a three-factor solution and explained 66% of the variance
- The 3 factors were
 - *Faculty Engagement* $\alpha = .72$
 - *Faculty/Student Interaction* $\alpha = .78$
 - *Faculty Self-efficacy* $\alpha = .72$

Factor Structure

Scale items and Factor Loadings

Item	#1 Faculty Engagement	#2 Faculty/Student Interaction	#3 Faculty Self-Efficacy
1. I have worked to change institutional practices that may negatively affect the success of URM students	.83	.02	.06
2. I have intervened on behalf of URM students who were misunderstood because of their cultural background	.70	.15	.06
3. I have worked to increase the recruitment of minority faculty	.72	.06	.27
4. I specifically ask URM students to share their cultural experiences with their classmates	.10	.85	.14
5. I ask URM students about their cultural background	.12	.92	.09
6. I try to introduce URM students to positive role models who are from similar backgrounds	.53	.59	.16
7. I actively search for articles about how to improve my teaching skills with URM students	.68	.25	.17
8. I am confident in my ability to meet the needs of URM students	.18	.22	.61
9. I am unsure about best teaching strategies to address the needs of URM students	.16	.00	.86
10. I feel unprepared when trying to meet the needs of URM students	.07	.12	.87

Discussion and Implications

- Younger, less experienced faculty with diminished self-efficacy about their interactions with URM students may benefit from mentorship by more experienced faculty
- If validated further, the EFURMS scale could be used to improve institutional and student outcomes
 - Assess faculty readiness to work effectively with URM students
 - Measure effectiveness of interventions aimed at improving faculty engagement with URM students

Limitations

- Data was limited to Massachusetts faculty
- Possibility of self-selection bias of those who participated
- Response rate/ timing of recruitment
- Test-retest not done

Conclusions

- Preliminary evidence for the internal consistency, content validity, criterion-related validity, and construct validity of the EFURMS Scale
- Faculty *engagement* provides a new dimension for understanding positive aspects of faculty interactions with URM students
- Potential for a robust instrument that could lead to greater numbers of URM nursing students graduating and entering clinical nursing practice

Dissemination Plan

The primary description of this proposal was submitted as a manuscript on December 31, 2015 to *Nursing Forum* for review and consideration for publication

Appendix A

UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH

Focus Group Fact Sheet (URM nurses)

- A. You are invited to participate in a research study called Development of a Scale that Measures Faculty Patterns with Underrepresented Minority Students in Nursing.
- B. The purpose of this study is to develop an instrument that will assess nursing faculty patterns of interactions when working with underrepresented minority nursing students.
- C. The research requires that you attend one focus group that will last approximately 60 minutes. The focus group will include of 4-5 additional members. The group will take place in a private room convenient to you.
- D. If you chose to participate in this study, you will be asked to attend one focus group to discuss faculty patterns of interaction when working with underrepresented minority nursing students.
- E. The purpose of this focus group is to develop items that will become part of the scale. The interview will be audio recorded and notes will be taken. You will be identified in the notes and transcription by a unique research number only.
- F. There are no physical risks associated with participation in this study. However, there is the rare chance that you may find some discomfort when responding to some of the questions about culture or race. You can choose not to answer any question that makes

you feel uncomfortable. .

- G. Participation is completely voluntary. You do not have to be in this study, and if you do join, you can stop or leave at any time.
- H. A \$25.00 gift certificate will be given to each focus group participant as an expression of gratitude for your participation in this study.
- I. If you have any questions, concerns, or complaints about this study, you can talk to the research team by contacting Paula Moreau at 781-771-9159. This research has been reviewed and approved by an Institutional Review Board. You can reach them at (508) 856-4261 or irb@umassmed.edu if you would prefer to speak with someone not associated with the study or have questions about your rights as a research subject.

Appendix B
Email Solicitation Faculty Focus Group

From: Paula Moreau

Subject: Research Request

Dear Nursing Faculty Member,

I am a PhD candidate in the Graduate School of Nursing at University of Massachusetts Worcester and ask that you participate in a focus group to discuss your experiences working with underrepresented minority nursing students. The purpose my research is to develop an instrument that measures nursing faculty patterns of interaction when working with underrepresented minority nursing students. You were selected to participate in this study because you are a faculty member who has at least six months teaching experience in a pre-licensure program (ADN, BSN, or Direct Entry) and have had experience working with underrepresented minority (URM) students of nursing. URM students are defined as those students who self-identify as belonging to African, African American, Hispanic, Asian, American Indian, and Alaska native backgrounds. The focus group will last for 60 minutes and will include 4-5 additional nursing faculty members.

If you are interested in participating in this focus group, please contact me at paula.moreau@umassmed.edu and I will send you a fact sheet detailing the study and your role in it. Please also feel free to call me with questions about the study at 781-771-9159.

If you do not respond to this survey or return the opt-out message, you will be contacted again with this request one more time during the next three weeks. Thank you for taking the time for assisting me in this research.

Appendix C

UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL

COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS IN RESEARCH

Focus Group Fact Sheet (Faculty)

- A. You are invited to participate in a research study called Development of a Scale that Measures Faculty Patterns with Underrepresented Minority Students in Nursing.
- B. The purpose of this study is to develop an instrument that will assess nursing faculty patterns of interactions when working with underrepresented minority nursing students.
- C. The research requires that you attend one focus group that will last approximately 60 minutes. The focus group will include of 4-5 additional faculty members. The group will take place in a private room convenient to you.
- D. If you chose to participate in this study, you will be asked to attend one focus group to discuss faculty patterns of interaction when working with underrepresented minority nursing students.
- E. The purpose of this focus group is to develop items that will become part of the scale. The interview will be audio recorded and notes will be taken. You will be identified in the notes and transcription by a unique research number only.
- F. There are no physical risks associated with participation in this study. However, there is the rare chance that you may find some discomfort when responding to some of the questions about culture or race. You can choose not to answer any question that makes

you feel uncomfortable. .

- G. Participation is completely voluntary. You do not have to be in this study, and if you do join, you can stop or leave at any time.
- H. As a token of our appreciation for your taking time to fill out this survey, we will be holding a raffle at a later date for 2 \$ 100.00 Amazon gift certificates. If you are interested in participating in the drawing, you may send your name and email address to paula.moreau@umassmed.edu.
- I. If you have any questions, concerns, or complaints about this study, you can talk to the research team by contacting Paula Moreau at 781-771-9159. This research has been reviewed and approved by an Institutional Review Board. You can reach them at (508) 856-4261 or irb@umassmed.edu if you would prefer to speak with someone not associated with the study or have questions about your rights as a research subject.

Appendix D

Faculty Invitation Letter

From: Paula Moreau

Subject: Research Request

Dear Nursing Faculty Member,

I am a PhD candidate in the Graduate School of Nursing at University of Massachusetts Worcester and ask that you consider participating in a research study aimed at developing an instrument to measure nursing faculty patterns of interaction when working with underrepresented minority nursing students. You were selected to participate in this study because you are a faculty member who has at least six months teaching experience in a pre-licensure program (ADN, BSN, or Direct Entry) and have experience working with underrepresented minority (URM) students of nursing. URM students are defined as those students who self-identify as belonging to African, African American, Hispanic, Asian, American Indian, and Alaska native backgrounds.

The survey will take 15 to 20 minutes to complete. Your responses are confidential and we do not collect identifying information on you. You may choose not to participate. There is no penalty for deciding not to participate or for withdrawing from participating at any time. If you choose to participate, please complete the online survey by clicking on the link below. Submission of the survey implies consent to participate in the study.

There are no physical risks associated with participation in this study. However there is the rare chance that you may find some discomfort when responding to some of the questions about culture or race. You can choose not to answer any question that makes you feel

uncomfortable.

As a token of our appreciation for your taking time to fill out this survey, we will be holding a raffle at a later date for two \$ 100.00 Amazon gift certificates. If you are interested in participating in the drawing, you may send your name and email address to paula.moreau@umassmed.edu. There will be no way to link your name with your responses to the survey. If you have any questions or concerns, or complaints about the study, you can talk to the research team by contacting Paula Moreau at 781-771-9159. This research has been approved by an Institutional Research Board. You can reach them at 508-856-4261 or irb@umassmed.edu if you would prefer to speak with someone not associated with the study or have questions about your rights as a research subject.

If you do not respond to this survey or return the opt-out message, you will be contacted again with this request one more time during the next three weeks. Thank you for taking the time for assisting me in this research.

Appendix E:
Faculty Interview Guide

Question	Probes	Conceptual Areas
1. Please tell me a little about your experiences working with URM students in nursing	a. What has been helpful, not helpful? b. give examples	Broad opening for general experience with URM students; May identify a preference for one of the five patterns
2. I am going to read to you 5 different patterns nursing faculty use when working with underrepresented minority students in nursing (URM). This term is defined as students who self-report they are from the following backgrounds: African, African American, Hispanic, Asian, American Indian and Alaska native. After reading each description, I will ask you to respond to several questions about that pattern	a. Faculty expressing this pattern do not see important distinctions among students from different cultures. One style of teaching is seen as sufficient for students of all ethnic and cultural backgrounds. Advocate individualizing instruction but not based on cultural differences or ethnicity. b. Have a high level of cultural awareness, view culture and ethnicity as important factors influencing student success. However, students are expected to assimilate into the mainstream to maximize their success. c. Faculty exhibiting this pattern are perceived to be insensitive and intolerant to cultural differences among students and may tend to stereotype individuals who belong to ethnic groups that are different from their own. d. Faculty have a high level of cultural awareness intellectually but are uncertain how to best support URM students. They try many approaches and are described as being in a state of “creative confusion” about best approaches. e. express a high level of cultural awareness and are comfortable adapting classroom strategies to meet the cultural needs of students. They may also actively seek to change institutional practices to facilitate URM student success.	Introduction and exploration of Yoder’s 5 patterns of interaction <i>Generic pattern:</i> <i>Mainstreaming pattern:</i> <i>Culturally non-tolerant pattern</i> <i>Struggling pattern</i>
	Specifically with each pattern <ul style="list-style-type: none"> • Have you seen this pattern? • Can you describe what you have witnessed? How might someone using this pattern describe their strategy or approach?	<i>Bridging pattern</i> Probing for language that is reflective of this pattern for item development.

Appendix E: Faculty Interview Guide (cont.)

Question	Probes	Conceptual Areas
3. Is there anything else that you think it is important for us to think about when considering faculty patterns of interaction when working with URM nursing?		
4. Let's summarize some of the key ideas that have been discussed	Review of notes from flip chart	Summarizing key topic concepts discussed linking the five patterns of interaction identified by Yoder.

**Appendix F:
URM Nurse Interview Guide**

Question	Probes	Conceptual Areas
<p>1. Please tell me a little about your experiences while in nursing school working with nursing faculty who interacted with nursing students who were from underrepresented minority backgrounds</p>	<p>a. What has been helpful, not helpful? b. give examples</p>	<p>Broad opening for general experience with URM students</p> <p>May identify a preference for one of the five patterns</p>
<p>2. I am going to read to you 5 different patterns nursing faculty use when working with underrepresented minority students in nursing (URM). This term is defined as students who self-report they are from the following backgrounds: African, African American, Hispanic, Asian, American Indian and Alaska native. After reading each description, I will ask you to respond to several questions about that pattern</p>	<p>a. faculty expressing this pattern do not see important distinctions among students from different cultures. One style of teaching is seen as sufficient for students of all ethnic and cultural backgrounds Advocate individualizing instruction but not based on cultural differences or ethnicity.</p> <p>b. have a high level of cultural awareness, view culture and ethnicity as important factors influencing student success. However, students are expected to assimilate into the mainstream to maximize their success.</p> <p>c. faculty exhibiting this pattern are perceived to be insensitive and intolerant to cultural differences among students and may tend to stereotype individuals who belong to ethnic groups that are different from their own.</p> <p>d. faculty have a high level of cultural awareness intellectually but are uncertain how to best support URM students. They try many approaches and are described as being in a state of “creative confusion” about best approaches.</p> <p>e. express a high level of cultural awareness and are comfortable adapting classroom strategies to meet the cultural needs of students. They may also actively seek to change institutional practices to facilitate URM student success.</p> <p>Specifically with each pattern</p> <ul style="list-style-type: none"> • Have you seen this pattern? • Can you describe what you have witnessed? • How might someone using this pattern describe their strategy or approach? 	<p>Introduction and exploration of Yoder’s 5 patterns of interaction</p> <p><i>Generic pattern:</i></p> <p><i>Mainstreaming pattern:</i></p> <p><i>Culturally non-tolerant pattern</i></p> <p><i>Struggling pattern:</i></p> <p><i>Bridging pattern</i></p> <p>Probing for language that is reflective of this pattern for item development.</p>

Appendix F: URM Nurse Interview Guide (cont.)

Question	Probes	Conceptual Areas
3. Is there anything else that you think is important for us to consider when thinking about effective faculty patterns of interaction when working with URM nursing students?		
4. Let's summarize some of the key ideas that have been discussed	Review of notes from flip chart	Summarizing key concepts discussed linking the five patterns of interaction identified by Yoder.

Appendix G**Nurse Faculty Cultural Awareness and Response to Ethnicity Scale CVI tally sheet****NFT Scale ITEM****Is the item clear?**

0 = No

1 = Yes

Is the item relevant?

0 = not relevant

1 = somewhat relevant

2 = mostly relevant

3 = very relevant

1. XX.	Comments:
0 1 2 3	
2. XX	Comments:
0 1 2 3	
3. XX	Comments:
0 1 2 3	
4. XX	Comments:
0 1 2 3	

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Appendix H
URM Nurse Demographic Data

Date: _____		Time: _____	
How do you describe your race and ethnicity?			
Racial Categories	Not Hispanic or Latino	Hispanic or Latino	
American Indian or Alaska native			
Asian			
Native Hawaiian or Other Pacific Islander			
Black or African American			
White			
More Than One Race			
Your age in years _____	Your gender Male _____ Female _____		
How long has it been since you have graduated from your nursing program (in months)? _____	Type of institution you attended <input type="radio"/> Public <input type="radio"/> Private	Type of nursing program you attended? <input type="radio"/> ADN <input type="radio"/> BSN <input type="radio"/> Direct Entry <input type="radio"/> Other (please specify) _____	

Appendix I
Nursing Faculty Demographic Data

Date:			Time:			Place:		
How do you describe your race and ethnicity?								
Racial Categories								
American Indian or Alaska native			Not Hispanic or Latino			Hispanic or Latino		
Asian								
Native Hawaiian or Other Pacific Islander								
Black or African American								
White								
More Than One Race								
How long have you been teaching in years? _____			How long have you been working with URM nursing students in years? _____			On average what percent of the students you teach would you classify as URM nursing students? _____%		
Type of institution you teach in <input type="radio"/> Public <input type="radio"/> Private			Type of program you teach in (check all that apply) <input type="radio"/> LPN <input type="radio"/> ADN <input type="radio"/> Direct Entry <input type="radio"/> Master's Degree <input type="radio"/> NP <input type="radio"/> DNP <input type="radio"/> PhD <input type="radio"/> Other (please specify) _____			Your age <input type="radio"/> 20 to30 <input type="radio"/> 31 to 4 <input type="radio"/> 41 to 50 <input type="radio"/> 51 to 60 <input type="radio"/> 60 or above Your title <input type="radio"/> Professor <input type="radio"/> Associate Professor <input type="radio"/> Assistant Professor <input type="radio"/> Clinical lecturer <input type="radio"/> Adjunct faculty		

Appendix I Nursing Faculty Demographic Data (Cont.)

Approximate enrollment size of your program <hr/>	What formal preparation have you had for teaching culturally diverse students? <ul style="list-style-type: none"> <input type="radio"/> Travel outside of the US <input type="radio"/> Work with culturally diverse patients <input type="radio"/> Workshops on cultural diversity <input type="radio"/> Ethnic studies <input type="radio"/> Anthropology <input type="radio"/> Sociology <input type="radio"/> Urban studies <input type="radio"/> Transcultural nursing <input type="radio"/> Other 	Clinical Area (you may select more than one) <ul style="list-style-type: none"> <input type="radio"/> Medical surgical nursing <input type="radio"/> Obstetrical nursing <input type="radio"/> Pediatric nursing <input type="radio"/> Fundamentals of nursing <input type="radio"/> Psychology <input type="radio"/> Community nursing <input type="radio"/> Other (please specify) <hr/>
Your gender <ul style="list-style-type: none"> <input type="radio"/> Male <input type="radio"/> Female 		

Appendix J
Modified Adapted Principles of Adult Learning Scale (M- APALS)

Always	Almost Always	Often	Seldom	Almost Never	Never
0	1	2	3	4	5
1. I help students find out the gaps between their goals and their present level of performance.					
0	1	2	3	4	5
2. I provide knowledge rather than serve as a resource person.					
0	1	2	3	4	5
3. I stick to the course objectives in the syllabus that I write at the beginning of a semester.					
0	1	2	3	4	5
4. I plan learning activities to take into account my students' prior experiences.					
0	1	2	3	4	5
5. I have individual conferences to help students identify their needs.					
0	1	2	3	4	5
6. I help my students develop short-term as well as long-term objectives.					
0	1	2	3	4	5
7. I maintain a well-disciplined classroom to reduce interferences to learning.					
0	1	2	3	4	5
8. I avoid discussion of controversial subjects that involve value judgments.					
0	1	2	3	4	5
9. I plan activities that will encourage each student's growth from dependence on others to great independence.					
0	1	2	3	4	5
10. I avoid issues that relate to the student's concept of himself/herself.					
0	1	2	3	4	5
11. I encourage my students to ask questions.					
0	1	2	3	4	5

SCORING THE M-APALS

Positive Items

Items number 1, 4, 5, 6, 9, and 11 are positive numbers. For positive items, assign the following values:

Always = 5, Almost Always = 4, Often = 3, Seldom = 2, Almost = 1, and Never = 0.

Negative Items

Items number 2, 3, 7, 8, and 10 are negative numbers. For negative numbers assign the following values:

Always = 0, Almost Always = 1, Often = 2, Seldom = 3, Almost = 4, and Never = 5

Factors

Factor 3 Relating to Experience

Factor 3 contains items 4, 9 and 11.

Factor 4 Assessing Student Needs

Factor 4 contains items 1, 5 and 6.

Factor 7 Flexibility for Personal Development

Factor 7 contains items 2,3,7,8, and 10.