INTRODUCTION

Culture is frequently cited as an important social determinant of health in research involving ethnic minorities, and it is often cited as integral to the study's theoretical framework or alluded to as explanatory in the outcome of the study.[1] However, despite the frequency with which culture is used as an explanation for health outcomes, the concept is rarely defined, and when definitions of culture are provided, measures of the construct are often inconsistent with its conceptualization.[2] Culture is erroneously conflated with race and ethnicity as a dichotomous, individual-level variable rather than a multi-dimensional, dynamic construct embedded in a multi-level social system.[3] Lacking a standardized and scientific definition of culture, the approach in health behavior and demographic research has been to use measures that are neither tested for cross-cultural validity or equivalence, nor conceptually comprehensive and nuanced enough to assess the interaction of risk factors known or suspected to impact disease prevalence, morbidity, and mortality in all population groups.[4,5,6]

This literature review is part of a larger 18-month project designed to meet four objectives: 1) scientifically define culture for application in health behavior research, 2) identify the domains of culture that influence health behavior, 3) specify the pathways by which these domains influence health outcomes in diverse populations, and 4) propose a set of recommendations to guide both researchers and funders in the conceptualization and measurement of culture.[7] This literature review was the first step of a three-step process which also included a two-day expert panel meeting in April 2012 and a 10-month Delphi consensus-building exercise to compile and rank the concerns of the expert panel and formulate final recommendations for the National Institutes of Health Office of Behavioral and Social Sciences Research (OBSSR).

METHODS

Topic Development: The principal investigators divided the overall goal to develop guidelines for the use of culture in health research into three subsections: 1) definitions; 2) measurement; and 3) translation.

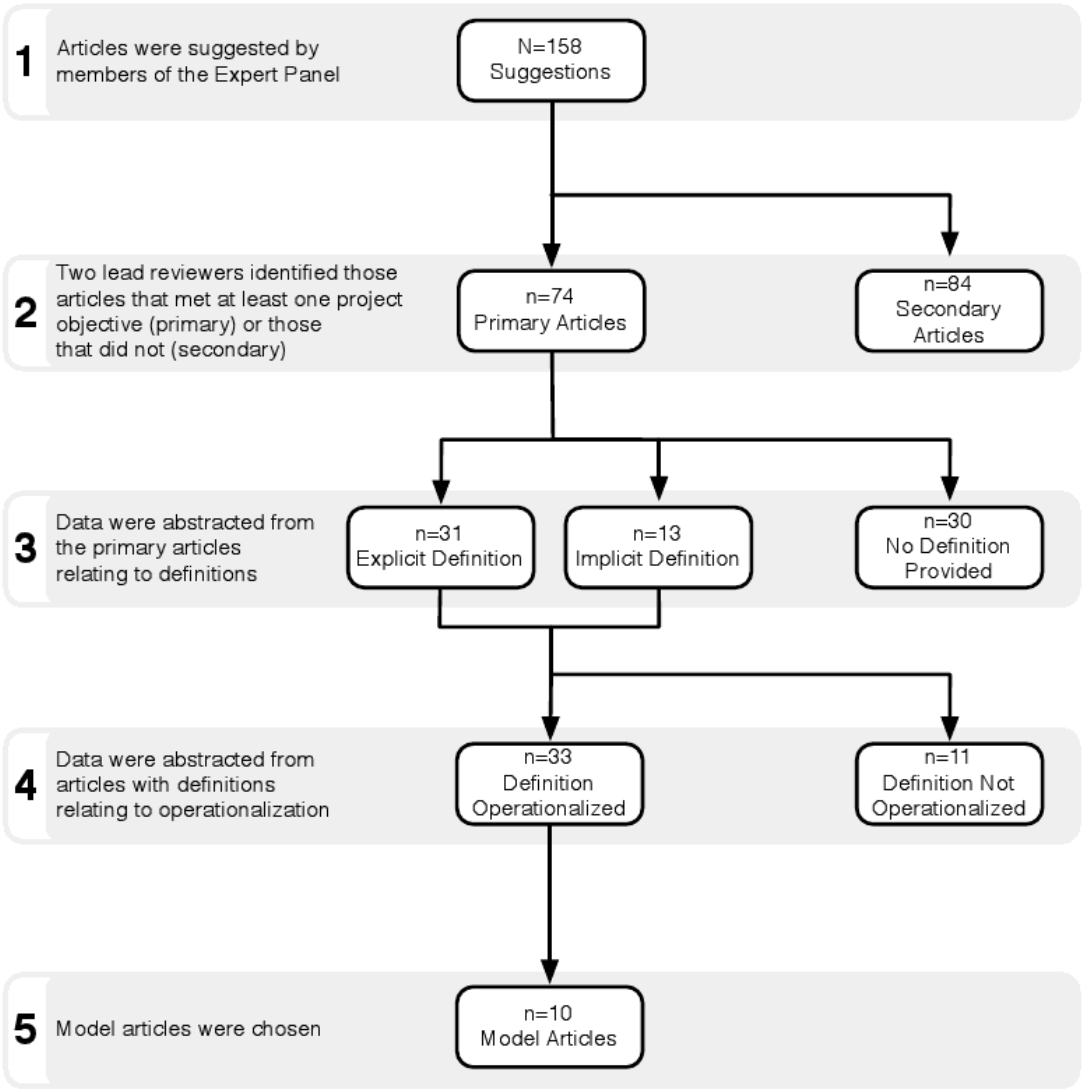
Literature Selection: Given the cross-disciplinary and complex nature of the project goal and its components, standard systematic search strategies proved ineffective at targeting articles relevant to the use of culture in health. As a result, the project team chose to use a systematic meta-narrative approach, in order to analyze the emerging "storyline" of culture within and across disciplines over time and trace the effects of seminal theoretical and empirical work regarding culture and health on subsequent cultural research.

In order to identify relevant works, an expert panel of 30 NIH-funded researchers with expertise in culture and health were asked to identify five to 10 articles on culture that pertained to measurement, challenges with defining the construct, conceptual or theoretical models of culture, or the application of a definition of culture for specific population subgroups. The expert panel was composed of researchers from nine different disciplines across health, social science and demographic fields, and the panel included both practitioners and academics. Expert panel members were invited to submit articles through a rolling invitation, with each successive participant instructed to review previous articles submitted by the panel in order to supplement the literature already collected and provide heterogeneous perspectives to meet the objectives of the project. Auxiliary searches were conducted by the project team to ensure the comprehensiveness of the identified body of literature.

Data Abstraction and Synthesis: Two lead reviewers (Fehrenbacher and George) divided the articles into two categories: 1) primary articles that directly addressed the conceptual or

theoretical aspects of culture as a construct in health behavior research; and 2) secondary articles that applied culture as a variable in research but provided little or no explanation on how the construct was defined or measured. A team of eight reviewers then abstracted data relevant to the three goal subsections (definitions, measurement, and translation) from articles in the first category, as well as the academic discipline and keywords for each article. For articles in the second category, it was simply noted whether or not culture was defined or operationalized in the article. Secondary articles with a substantial amount of data relevant to the three goal subsections were then moved into the primary category. The project team summarized findings on each goal subsection and then identified major themes from a qualitative synthesis of the relevant literature. Finally, a list of model articles was compiled to demonstrate exemplary work on defining and measuring culture with sufficient scientific rigor in health research. Model articles were defined as those that provided a definition of culture and a measure of culture, and the measure of culture was consistent with the conceptualization of the culture construct proposed by the author(s). *See Figure 1 for Article Selection Flow Map.*

FIGURE 1: Article Selection Flow Map



RESULTS

The project team reviewed 158 articles submitted by the expert panelists. A total of 167 articles were submitted, but nine duplicates were eliminated. Seventy-four were categorized as primary articles that met at least one of the four project objectives outlined in the introduction and 84 were categorized as secondary articles. Descriptive statistics and key qualitative findings

were compiled for each goal subsection. For the purpose of this review, results are limited to the definition and measurement goals.

Definitions: Among all articles submitted by the expert panel, 63% did not provide a definition of culture. Among articles that did provide a definition of culture, three-fourths provided an explicit definition of culture and one-fourth an implicit definition, as evidenced by vague descriptions of what constitutes culture or implied properties of culture discussed in the absence of an explicit definition. As a result, reviewers often had to dig deep into the articles for definitions which could easily be overlooked or misinterpreted by researchers who are not seasoned in the science of culture and health. Hundreds of definitions of culture were identified across the articles because many authors provided multiple definitions though the majority did not provide a definition at all. There appears to have been little effort made to integrate or coordinate the various definitions across disciplines over time.[8,9,10] The result is a lack of consensus on either a standardized and scientific definition of culture or consensus on common essential elements of culture. [11]

The most common characteristics of culture discussed in the review articles were its dynamic nature, the understanding that it is group-based or shared, and the notion that it provides meaning and a way to make sense of the world. Although authors varied on which components were most important for assessing culture in the context of health research, most suggested analyzing some combination of knowledge, beliefs, values, behaviors, practices and expectations. Others highlighted the need for a better understanding of the transmissibility of culture, the ways it affects thoughts and assumptions, and the degree to which culture is known or experienced unconsciously by individuals or groups. A recent trend toward understanding culture as consensus among members of a group was observed in the articles, particularly within

the discipline of anthropology. Nonetheless, debate remains regarding who are the bearers of culture, and a significant proportion of articles continue to perpetuate the tacit belief that only groups other than non-Hispanic whites – that is, ethnic/racial groups of color – *have* culture.[12] As a result, a large body of literature has "blamed the victim" and scapegoated racial and ethnic minority populations for poor health outcomes using culture as an explanation, without taking into account influences at the community, societal, and structural levels.[13]

Measurement: A majority of the articles submitted by the expert panel (56%) did not discuss measurement of culture or operationalize the construct despite arguing that it was fundamental to the design or outcome of the study. Among articles that discussed the measurement of culture as a key issue or challenge in health research, 90% provided an actual measure of culture or instructions on how to operationalize the construct.

The most scientifically-grounded definitions of culture identified in the review were multi-dimensional and dynamic, thus authors often lamented the difficulty of capturing the complexity of culture through standard measurement techniques.[14] Many researchers noted that reliance on static demographic categories at the individual level as proxy variables for culture has led to a tendency to stereotype and view culture as a deficit for racial or ethnic minorities.[15] The most common results have been erroneous conflations of the concepts of culture, race, and ethnicity and the assumption that the population groups of focus are homogeneous and discreetly bounded for identification. This operationalization of culture is antithetical to most definitions of culture as an ever-changing construct embedded in overlapping, multi-level social systems.[16] The inconsistent and inaccurate use of culture in health research results in minimal explanatory power of culture on health, and provides little information as to why health disparities exist across socio-demographic groups and what can be done to eliminate these disparities.[17]

Model Articles: Ten articles (6% of total sample) met our criteria as model articles meaning that the measure of culture proposed was consistent with the conceptualization and definition of culture offered. The model articles represented a variety of disciplines including anthropology, sociology, public health, psychology, information technology, and management. The articles also offered a wide range of measurement techniques utilizing both quantitative and qualitative methods, as well as mixed methods. The most common method proposed was "cultural consonance" or "cultural consensus modeling" which measures the degree to which an individual's behavior approximates the guiding awareness of his or her culture. This method is derived from Goodenough's cognitive theory of culture as "that which one needs to know in order to function adequately in a given society."[18] Cultural consonance is derived from estimates provided by cultural consensus analysis first proposed by Romney, Weller, and Batchelder in 1986 and later popularized in the context of health research by William Dressler.[19] Cultural consonance allows researchers to deal with the methodological challenges of measuring culture as both a shared and individual construct.

CONCLUSIONS

More accurate conceptualization, operationalization, and translation of a scientifically-based concept of culture would indicate better predictors of both the risk and protective factors that would likely account for a larger percentage of the variance in statistical modeling of health outcomes than demographic categories alone.[20] Greater clarity on what culture is and how it impacts health behavior and ultimately health outcomes would enable researchers to better identify malleable systemic and population factors that could be addressed in order develop culturally-grounded health programs and services for specific subpopulations across the disease

spectrum, ranging from genetic to infectious to chronic, and across the care continuum, from prevention to end-of-life care.[21]

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