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Exploring Health Attitudes and Academic-Community Engagement of Faculty at Accredited Schools and Colleges of Public Health in the U.S.

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EXPLORING HEALTH ATTITUDES AND ACADEMIC-COMMUNITY ENGAGEMENT OF FACULTY AT ACCREDITED SCHOOLS AND COLLEGES OF PUBLIC HEALTH IN THE U.S.

by

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(Under the Direction of Ashley Walker Colquitt)

ABSTRACT

Academic-community collaborations (ACCs) help communities identify health problems/ priorities, improve social determinants of health, engage in the design and implementation of projects, and provide students with opportunities to learn outside the classrooms. Extensive research has focused on exploring challenges, facilitators, lessons learned, and best practices for conducting ACCs and engaging in partnerships. Nevertheless, no studies have evaluated the intra-organizational health attitudes of faculty in schools and colleges of public health and their impact on academic-community engagement. Organizational health attitudes matter because these are basic underlying assumptions that can shape the culture of academic-community engagement at schools and colleges of public health. Hence, this study explored health attitudes and academic-community engagement of faculty at accredited schools and public health colleges (SPHs) to assess academic-community engagement through an organizational lens. The study used a sequential mixed-methods study design. The data were collected from a stratified cluster sample of 21 SPHs, using an online survey of faculty members and a 45-minute follow-up phone interview. Spearman rank-order correlations were employed to assess the association between health attitudes, including (value of health interdependence, the value on

well-being, emotional connection to the community, and community membership), and academic-community engagement. The total sample size included 147 participants. The majority of participants recognized that social and physical external factors influenced health. More than a third of the participants believed that community investment around five different policies to improve health and well-being was a top priority. Less than eleven percent of participants had a strong emotional connection and membership to their community. There was a weak negative correlation between value on well-being and engagement in population health activities. Interview results showed that lack of leadership support and tenure and promotional process affected both academic-community engagement and the health culture in SPHs. These findings highlight the importance of studying and nurturing health attitudes regarding academic-community engagement, as SPHs with strong health attitudes can lead the way towards a national culture of health.

INDEX WORDS: Health attitudes, Academic-community engagement, Collaborations, Schools and colleges of public health, Culture of health, Organizational culture.

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by

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DEDICATION

Completing this degree was a tremendous achievement in my academic career, and it was only possible with the support of my mother who helped to care for my kids when I was in school.

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CHAPTER 1

BACKGROUND AND SIGNIFICANCE

Addressing health disparities has gained considerable momentum among governmental and non-governmental agencies (Centers for Disease Control and Prevention [CDC], 2016a; Robert Wood Foundation [RWF], 2016; World Health Organization [WHO], 2016). Health disparities are defined as noticeable differences in one particular group or individual's health outcomes compared to another group or individual (CDC, 2017). In the United States, minority racial and ethnic groups (e.g., Blacks, Latinos, and American and Alaska Natives) have higher burden of several morbidity and mortality indicators than Whites. (Braveman, Cubbin, Egerter, Williams, & Pamuk 2010; Dai, 2010; He et al., 2015; National Center for Health Statistics [NCHS], 2017; Substance Abuse and Mental Health Services Administration, 2015; Woods, 2016). For example, American Indians/Alaska Natives, and Blacks experience higher burden of diabetes (12% and 11% respectively), asthma (15% and 11% respectively), and heart attack/heart disease (8% and 5% respectively), as compared to Whites who experienced the same health issues at a much lower rate, diabetes (7 %), asthma (9%), and heart attack/heart disease at a 4 percent rate (Artiga, Orgera, & Pham, 2016). Recognition of these differences has evoked a call to action across different sectors, to adopt an integrated and multilevel collaborative approach to reduce these health disparities (CDC, 2016b; Koh et al., 2010; Satcher, 2010; WHO, 2016).

Statement of Problem

In the realm of global public health, collaborative work, especially between high income and low- or middle-income countries, has contributed to better population health (Chu, Jayaraman, Kyamanywa, & Ntakiyiruta, 2014). Worldwide, collaborations between the private

and public sectors have paved the way for improving global health. For example, these efforts have led to the development of and access to vaccines around the world (Campos, Norman, & Jadad, 2011). Similarly, the collaborative efforts of the Task Force for Child Survival in the early ’80s helped to increase the global rate of immunizations from 20% to 80%; and many other multisectoral collaborations have undertaken the fight against onchocerciasis, HIV/AIDS, tuberculosis, malaria, and other preventable diseases (Rosenberg, Hayes, McIntyre, & Neill 2010). Collectively, these partnerships profoundly impacted the progress made in reducing diseases and mortality around the world (WHO, 2007).

In the U.S., cross-sectoral collaborations among different partners, particularly among universities/academia and communities or better known as academic-community partnerships, have also demonstrated significant health improvements. These partnerships or collaborations happen by sharing knowledge or resources between two or more organizations that work together with a common purpose to achieve similar goals (Gray, 1985). Academic-community partnerships have successfully dealt with public health issues in the areas of education and work-related programs (Barnidge, Baker, Motton, Rose, & Fitzgerald, 2010); clean air (Bozlak & Kelley, 2010); maternal and child health research, HIV/AIDS services and adolescent health (Belone et al., 2016); obesity (Margellos-Anast, Shah, & Whitman, 2008); and violence (Busch-Armendariz, Johnson, Buel, & Lungwitz, 2011).

For decades, academic institutions and communities have been working together to address public health issues, especially collaborations between schools of public health and local community partners. For example, different collaborative projects in Harlem, New York, Pennsylvania, and Iowa have focused on STDs (VanDevanter et al., 2002), nutrition, physical activity, and smoking cessation (Trauth, 2003), and emergency preparedness (Atchison, Uden-

Holman, Greene, & Prybil, 2013). Extensive academic-community research has focused on exploring challenges, facilitators, lessons learned, and best practices for collaborations in public health work (Bryan, Brye, Hudson, Dubose, Hansberry, & Arrieta, 2014; Caron, Ulrich-Schad & Lafferty, 2015; Horowitz Robinson, & Seifer, 2009; Livingood, Goldhagen, Little, Gornto, & Hou,2007; Roussos & Fawcett, 2000).

Most recently, two studies evaluated the characteristics and efforts of academic-community collaborations in public health. In their systematic review of community-academic partnerships research, Drahota et al. (2016) found that the two most common research topics were access to health and social services and health interventions, followed by topics that involved collaborations with the education system including teacher development. More often, these collaborations were initiated by the academic researchers, more than 66% of the partnerships were happening between the academia and the for-profit and non-profit sectors, and the majority of the studies lacked a theory-based analysis approach (Drahota et al., 2016). Similarly, Caron et al., 2015 delved into assessing the effectiveness and characteristics of academic-community partnerships, particularly collaborations between schools of public health and community partners. Findings from the study revealed that schools of public health were primarily partnering with the non-profit sector, followed by community coalitions, advisory boards, and local health departments.

Furthermore, community partners were primarily partnering with schools of public health (47.4%), as compared to a medical school (34.2%), or a department of community health (26.3%). Close to 80% of both academic and community partners reported that their partnerships were “somewhat effective” or “very effective” on addressing public health issues in their communities. Additionally, over 70% of the participants believed that these

partnerships helped increase public health awareness (Caron et al., 2015). Additionally, partnership challenges included the need to rely on federal and private grants to complete the work, a lack of financial resources, the amount of time required to form the partnerships, and the need to establish specific infrastructures such as memorandums of understanding, standard processes, and proper communication channels between the university and community (Caron et al., 2015).

Although these studies suggested that academic-community collaborative partnerships are happening and provided evidence of the challenges and barriers, no studies have evaluated the intra-organizational health attitudes of faculty in schools and colleges of public health and their impact on academic-community engagement. In a time of increased population health awareness, organizations are being challenged to evaluate their impact on public health and are encouraged to incorporate health as a core value among the people they serve, their staff, their communities, and the environment (Quelch & Boudreau, 2016). According to Quelch and Boudreau (2016), the integration of health as a core value requires the organization to acknowledge its impact on health and make necessary organizational changes to develop a health culture from within their institutions. This concept also applies to schools and colleges of public health as the organizations of higher education institutions.

A transformational culture of practice and engagement in academia is making its way through some schools of public health. For example, the Harvard T.H Chan School of Public Health has begun a restructuring of its educational system, which embodies a more active and proactive participatory approach to public health education that incorporates online, onsite, and field leaning to their teaching, as well as creating a culture where research and teaching are part of the identity of the faculty (Frenk, Hunter, & Lapp, 2015). Similarly, at Morehouse School of

Medicine, first-year students are exposed to the needs of their community via engagement in a year-long service-learning course that exposes them to community health assessments, program development, and evaluation of community health promotion interventions (Buckner, Ndjakani, Banks, & Blumenthal, 2010). Lastly, in Indiana, both the Bloomington School of Public Health and Richard M. Fairbanks School of Public Health are part of a statewide collaborative approach to promote a culture of health and improve the health of all residents (Savaiano et al., 2017). Academic institutions that support transformative learning environments take advantage of networking opportunities and partnerships to enhance student learning, train the community in leadership skills, and engage health professionals in the process (Frenk et al., 2010). Hence, to assess progress on decreasing health disparities, schools and colleges that engage in academic-community partnerships through teaching and research need to evaluate the impact of their efforts on local communities.

Statement of Purpose

The purpose of the study was to assess academic-community engagement through an organizational lens by exploring the health attitudes and academic-community engagement of faculty at accredited schools and colleges of public health (SPHs) in the U.S.

Specific Aims and Research Questions

Specific Aim One. Identify the health attitudes of faculty at accredited SPHs.

RQ1. What are the health attitudes of faculty at SPHs?

Specific Aim Two. Examine the relationship between health attitudes and academic-community engagement among faculty at accredited SPHs.

RQ2. Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?

Specific Aim Three. Assess how faculty feel about the health culture in the accredited SPHs.

RQ3. What are the knowledge and attitudes of faculty about the health culture in SPHs?

RQ4. What are the barriers and facilitators that impact academic-community engagement among faculty at SPHs?

Delimitations

- A modest sample size (N=147). Initially, only 11 SPHs were selected using a stratified cluster sampling method, which yielded a representative sample of schools from each of the five U.S. territorial regions. In order increase the number of participants in the study, 10 additional SPHs were randomly selected, two for each of the U.S. territorial regions, for a final total of 21 SPHs. Self-reporting measures. The online survey was anonymous, encouraging honest self-reporting. No identifying information was collected, and participants could skip questions or leave questions blank.
- Study design. A mixed-methods approach, with an online survey and a phone interview was used.
- This study was based on the theoretical framework of the Organizational Culture Model. According to the model, an organization's culture is shaped by its artifacts, espoused beliefs and values, and basic underlying assumptions (Schein, 2010, 2017). In this study, academic faculty concentration, race and ethnicity, sex, and tenure were *artifacts*. Values of health interdependence, value on well-being, emotional connection to the community, community membership, and perspectives on health were defined as basic *underlying assumptions.* It was theorized that the faculty's basic

underlying assumptions, such as values of health interdependence, well-being, emotional connection to the community, and community membership, were related to campus academic-community engagement perceptions.

- The public health faculty were selected as study participants because the researcher wanted to explore the health culture and academic-community engagement in SPHs. The selected schools represent all accredited SPHs across the five U.S. geographical regions (West, Southwest, Northeast, Southeast, Midwest). A mixed-methods approach with reliance on quantitative and qualitative data allowed to gain insights on academic-community collaboration and health attitudes (Creswell & Plano Clark, 2011).

Assumptions

- It was assumed that the participants responded openly and honestly to the information presented on the anonymous online survey.
- It was assumed that all the participants were English speaking and were part of a subculture, within the academic institution, with unique characteristics and interests (Clark & Trow, 1966).
- Schein's (2017) provides a theoretical framework that furthers the integration of cultural perspectives. It was assumed that the faculty's behavior is interrelated with the organizational health culture; thus, their health attitudes will be stronger, and they will be more likely to engage in academic-community partnerships.
- As health professionals, the assumption is that the participants will be more likely, than other faculty not in public health, to engage with the community to promote population health (Gebbie, Rosenstock, & Hernandez, 2003).

Significance of the Study

The study findings provide insights into the health culture of SPHs and the understanding of the role of health attitudes and academic-community engagement. Although academic-community engagement in schools of public health has been examined before through an organizational culture framework, no study has explored the health attitudes of faculty and academic-community engagement in terms of the heath culture of public health institutions. Therefore, the present study is unique. The findings also identified areas of the potential impact of health culture on academic community engagement and highlighted both, barriers and challenges to creating a health culture and engaging in academic-community collaborations in accredited schools and colleges of public health.

Definition of Terms

SPHs: Abbreviation used for schools and colleges of public health (Council on Education for Public Health, 2018a).

Faculty: The term faculty in the study includes all full-time faculty, tenured, tenure track, and lecturers.

Academic-community partnerships: These are collaborations in higher education tailored to the specific population in the community that is being served and are often used to promote action research (Slater & Ravid, 2010).

Health attitudes: The study uses RWJF's definition of health attitudes, as individuals' attitudes, perceptions, values, prioritization of health, and consideration to issues related to health equity, which are influential factors on health. The primary constructs for health attitudes include: value of health interdependence, which measures how well participants recognize that health is influenced by physical and social factors (e.g., peer, family,

neighborhood, and workplace drivers of health); value on well-being, this value captures valued investment in community health and well-being; emotional connection to the community, and community membership, both constructs measure the sense of one's connection to the community (Carman et al., 2016, p. xi)

Organizational culture: The shareable assumed beliefs, values, and behavioral expectations that an organization creates over time and strives to maintain and share with new members (Schein, 2017).

Health culture: In the proposed study, the health culture of health in SPHs is defined as the environment of the workplace, which emphasizes and promotes employees' health and well-being (Kent, Goetzel, Roemer, Prasad, & Freundlich, 2016).

Culture of health: a culture where everyone enjoys good health and well-being regardless of who they are or where they come from; a culture that supports healthy equitable communities and public and private decision making to allow for everyone to make healthy choices and to live healthier lives (RWJF, n.d).

Organization of the Remaining Chapters

Chapter one provided the introduction, problem statement, purpose of the study, research design and questions, significance of the study, delimitations, and assumptions. Chapter two presents a comprehensive review of literature related to academic-community engagement and organizational culture in academia. Chapter three details the methodology for the present mixed-methods study. Chapter four includes the results found in the study. Lastly, chapter five will provide a comprehensive discussion and conclusion of the findings.

CHAPTER 2

LITERATURE REVIEW

Academic-community partnerships stem from an established relationship between an academic institution and a partner from the community. In some cases, the needs of both institutions often drive the partnership. The collaborative work between the two partners depends on the type of partnership that develops between the parties (Lesser & Oscós-Sánchez, 2007). In some partnerships, the researcher has the power and control over the research or project and its outcome. Both entities share the roles and responsibilities in other partnerships, or only the community partner has total control and power (Lesser and Oscós-Sánchez, 2007). Principles for academic-community collaborations have been well established (Israel, Schulz, Parker, & Becker, 1998) and serve as a roadmap for successful collaborative work among partners (Seifer, 2000). The reciprocal sharing of knowledge, resources, and expertise in an equitable environment that sanctions the community as a unit of identity are among the core principles of these collaborations (Israel, Schulz, Parker, & Becker, 1998; Minkler, 2005).

More specifically, Drahoat et al. (2016) defined academic-community partnerships as a partnership with equitable control, a cause(s) that is primarily relevant to the community of interest, and specific aims to achieve a goal(s). These partnerships involve community members (representatives or agencies) and academic researchers (p. 192). Academic-community partnerships that engage an interdepartmental approach or collaborations between universities have successfully addressed relevant health issues affecting the community and have increased awareness and education inside the campuses (Busch-Armendariz, Johnson, Buel, & Lungwitz, 2011; Logan, Davis, & Parker, 2010).

A myriad of academic-community collaborations has focused on mental, physical, and environmental health issues (Drahota, 2016). Additionally, other partnerships have also ventured into the areas of education (Ebersöhn, Loots, Eloff, & Ferreira, 2015; Goodnough, 2014; Groen, & Hyland-Russell, 2012), social work (Drabble, Lemon, D'Andrade, Donoviel, & Le, 2013; Fouché & Lunt, 2010; Miller, Deacon & Fitzgerald, 2015), and community revitalization issues (Laninga, Austin, & McClure, 2012). The Carnegie Foundation (2015) called this level of engagement between academia and the community a model that intensifies the teaching environment by enhancing scholarship, partnerships, and outreach. Moreover, the Institute of Medicine [IOM] calls attention to the need for broader collaborative partnerships within the field of public health that focus on asset-based approaches among diverse communities (IOM, 2003). Schools of public health provide a crucial platform for collaborative work to address community-specific health issues through academic-community partnerships.

Schools of Public Health and Community Partnerships

Public health is rooted in the belief of the social obligation of making this world a better place for people to live healthier and more productive lives (Krieger & Birn, 1998). The business of public health is the engagement in the promotion and protection of health to ensure a healthier society where individuals can successfully thrive (American Public Health Association [APHA], 2019). At the same time, accredited SPHs are also encouraged to deliver high-quality public health education and training "through collaboration with organizational and community partners" (Council on Education for Public Health [CEPH], 2018a para. 4). The shared interest in promoting and addressing individuals' health needs triggers some of the partnerships that happen between schools of public health and the community. Hence, SPHs are seen as gatekeepers that

further the health of individuals and communities, and continuously advance health through research, teaching, and practice through collaborative work.

Academic-community partnerships have also led to an increase in community-based participatory research (CBPR). According to Israel, Schulz, Parker, and Becker (1998), CBPR is an equitable and collaborative approach to research that allows for nonacademic participation (community leaders, government and non-government organizations, and other sectors of the community) to work together. Members of these partnerships work in every step of the research process while co-owning the outcomes. Working collaboratively with communities can facilitate the translation of research into practice through the development, implementation, and dissemination of public health interventions (Davis, Cilenti, Gunther-Mohr, & Baker, 2012; Hassmiller Lich, Frerichs, Fishbein, Bobashev, & Pentz, 2016; Wallerstein & Duran, 2010). Moreover, employing a CBPR approach creates opportunities to work with diverse communities; it helps identify health problems/priorities, assesses the underlying social determinants of health, and allows partnership members to engage in the design and implementation of projects (Belone et al., 2016). The CBPR approach empowers minority communities to find solutions to their health needs (Israel, Schulz, Parker, & Becker, 1998).

A less engaged classroom teaching approach can hamper the development of a robust practice-based public health workforce. A systematic review of the public health workforce highlighted the need for a more diverse workforce with a public health educational background and training in theory and practice (Hilliard & Boulton, 2012). Tackling the new public health challenges of the 21st century also calls for a well-rounded public health practitioner equipped with real public health need exposure, beyond the classroom (Greece, DeJong, Gorenstein, Schonfeld, Sun, & McGrath, 2018). Hence, academic-community partnerships can serve as

incubators for the next generation of public health leaders (Ceraso, Swain, Vergeront, Oliver, & Remington, 2014). Students may participate in these collaboratives via service-learning. Service-learning is a formalized and structured framework for teaching and learning in the community (Mennen, 2006). This engaged teaching approach has been found to foster more civically engaged students (Morgan & Streb, 2001), with a more in-depth perspective and understanding of local health disparities (Buckner, Ndjakani, Banks, & Blumenthal, 2010), and with the necessary skills needed it to apply solutions to real public health issues (Sabo et al., 2015). Furthermore, students engaged in this type of learning also report higher personal growth levels and awareness of local health disparities (Hou, 2009; Upadhyaya, May, & Highfield, 2015). Lastly, community partners reported benefits for the community-academic partnerships including an increased awareness around public health issues, reducing community exposure to the health issues, and funding opportunities (Caron, 2015).

In some schools of public health, civic engagement is part of the faculty's practices and services. Public health practice is the combination of research, teaching, and service translated and applied to solve public health issues; however, this amalgam is not prioritized or strategically embedded in the work carried out by all schools of public health (Potter et al., 2009). Service, practice-based teaching, and applied research played a central part in higher education. However, these practices took a toll in the 70's when substantial federal funding was poured into scientific research, which led to a culture where the "service moved away from service to society and was replaced with service to the institution or the profession" based on research production and federal grants (Beere, Votruba, & Wells, 2011 p. 11). Later, Ernest Boyer drew attention to this matter by proposing that scholarship was composed of different related parts–discovery, teaching, integration, research, and engagement (Boyer, 1990). Boyer's

perspective was a call to action for many universities to re-evaluate their scholarship (Seifer, Wong, Gelmon, & Lederer, 2009).

Moreover, Boyer's report also mobilized the public health field. It sparked the creation of the *Commission on Community-Engaged Scholarship in the Health Professions,* which was tasked with the promotion of partnerships between communities and educational institutions, community-based research, and service-learning to achieve healthier communities (Seifer et al., 2009). Many universities are currently adamantly continuing to engage in academic-community partnerships to decrease health disparities, inform development of health policies, and support workforce development.

Addressing Health Disparities and Organizational Culture

Academic-community partnerships at schools of public health have had a tremendous impact on the health of vulnerable communities. In the U.S., minority groups bear the greater burden of several health outcomes compared to their White counterparts. In their latest report on racial and minority health, the National Center for Health Statistics (2016) found that compared to Whites, non-Hispanic Black women had the highest infant mortality rates compared to Native Hawaiian or other Pacific Islander, American Indian or Alaska Native, Hispanic, non-Hispanic White, and Asian women; both Black men and women had also a higher prevalence of hypertension than White men and women, and the rate of obesity was worst for Hispanics ages 2-19 than Whites in the same age group. Among root causes of these differences are social determinants of health (WHO 2016). For example, factors such as income inequalities (Adler & Rehkopf, 2008; Chetty; 2016; Marmont, 2002; Pickett & Wilkinson, 2015; Wagstaff & Van Doorslaer, 2000), and neighborhood conditions such as available and accessible grocery stores and sidewalks are determinants that impact health (Dean & Sharkey,

2011; Gordon-Larsen, Nelson, Page, & Popkin, 2006; Morland & Evenson, 2009; Sallis, 2009). Hence, to address health disparities, the U.S. Department of Health & Human Services (HHS) supports the need to focus on social determinants of health in order to improve the health of vulnerable populations (HHS, 2013).

Altogether health policies can have a tremendous influence on the health of disadvantaged neighborhoods. Academic-community partnerships have the power to translate the work into policy advocacy to move forward policies that impact health disparities (Cacari-Stone, Wallerstein, Garcia, & Minkler, 2014; Colgrove, Fried, Northridge, & Rosner, 2010; Freudenberg & Tsui, 2014; Petersen, Minkler, Vásquez, & Baden, 2006). Across the country, academic-community partnerships with schools of public health have contributed to policy changes. For example, in Chicago, an academic-community collaboration worked together to identify the disproportionate displays of alcohol and tobacco advertisement, related to alcohol and tobacco, in minority neighborhoods (Hackbarth, Schnopp-Wyatt, Katz, Williams, Silvestri, & Pfleger, 2001). The findings lead to multiple city council hearings that resulted in an ordinance that such billboards were restricted to be displayed only in the city's manufacturing areas. The partnership between Columbia University's Mailman School of Public Health in partnership with West Harlem Environmental Action, through research, training, education, and policy advocacy was able to achieve policy changes to address serious environment pollution issues in a mostly Black and Latino community (Minkler, Vásquez, & Shepard, 2006). Similarly, in San Diego, the Southern California Environmental Health Sciences Center at the University of Southern California (USC) with the Environmental Health Coalition and other community partners, worked together to mobilize policies that impacted land use, air quality,

and children's health, in a neglected community (Minkler, Garcia, Williams, LoPresti, & Lilly, 2010).

Moreover, at the organizational level, Quelch and Boudreau (2016) argued that in an era of increased population health awareness, organizations are being summoned to operate in a more socially conscious way, by integrating health into every aspect of their day-to-day activities. These are also true and applicable in academic settings such as SPHs because they are institutions with their own unique culture. For example, the University of Memphis School of Public Health fosters a health culture on their campus by promoting healthy eating, physical activity, and no smoking among their students, faculty, and visitors (Levy, Gentry, & Klesges, 2015). Similarly, the University System of Georgia (USG) contributes to a health culture by encouraging its faculty and staff to engage in different wellness programs that could earn them credit or cash points (USG, 2019). Lastly, in the University of Alabama, a collaboration between different departments, including nursing and health sciences, provides health education and wellness programs to its employees and their families (Carter, Kelly, Alexander, & Holmes, 2011).

Through a population health lens, these organizations are units that inevitably impact their employees' health, the people they serve, their surroundings, and the environment (Quelch and Boudreau, 2016). Furthermore, some organizations have realized that investing in a healthier workforce positively impacts productivity, enhancing the health of the local communities generates a socially responsible image for the organization, and caring for the environment opens the door to a growing market of environmentally conscious consumers (Quelch & Boudreau, 2016). Although the assumption that every organization is ready to take

on the challenge of operating within a population health framework would be an overstatement, yet optimism remains.

Different philosophies have attempted to make sense of organizations' complexity and understand what drives their culture. Research on organizational theory has evolved, from merely viewing organizations as mechanical, uni-dimensional, rigid, and compartmentalized systems, to more complex, versatile, fluid, and evolving systems (Perrow, 1973). Culture illustrates the functions of an organization (i.e., growth and development, interactions of people, knowledge building, maintaining and sharing) that move organizations or businesses forward (Alvesson, 2002). Recognition of the internal and external social demands, a changing working environment, the market, new technology, and government have been paramount in the studying of organizational culture (Perrow, 1973). Thus, multiple internal and external factors can influence and shape the culture of an organization.

Organization Culture in Schools of Public Health

The culture of an organizational and climate are two factors thought to influence attitudes toward adopting new approaches (Aarons, 2005; Burns & Hoagwood, 2005; Feldman, 1993), and enhancing function and productivity (Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn, Glisson, & Dukes, 2001; Sheridan, 1992). For more than two decades, the Community-Campus Partnerships for Health has worked to support a transformative academic-community partnership culture in schools of public health (Seifer et al., 2009). These efforts suggest that a strong and supportive organizational culture across multiple health sectors is crucial to building healthier communities (PHAC, 2014; Raphael et al., 2014). Stevens (2000) suggests that a ‘practice culture’ in schools of public health encompasses the norms, values, and beliefs, among other things, of an organization. Stevens argues that practice, including academic-

community partnerships, is driven by the corporate culture of the schools of public health (Stevens, 2000). Therefore, the author calls for an in-depth analysis of the norms, values, social control, among other things that coexist within the institution (Stevens, 2000).

Norms, Values, and Social Controls Impacting Academic-community Engagement

Engagement is influenced by the institution's norms, which can include a set of shared rules or guidelines affecting faculty involvement and funding (Stevens, 2000). The institution's vision, mission, strategic planning, structural policies, and staff training are critical elements that shape the culture of engagement within an institution. In other words, engagement must be integrated into all aspects of the institution (Beere et al., 2011). In SPHs, most of the academic-community engagement is primarily initiated by faculty or at the individual level, and later on may or may not be followed by a Memorandum of Understanding (Association of Schools and Programs of Public Health [ASPPH] 2018). Additionally, faculty are highly engaged in partnerships with grant funding entities such as the National Institutes of Health (ASPPH, 2018), indicating a relationship based on funding needs. According to Freudenberg, Klitzman, Diamond, and El-Mohandes (2015), schools of public health that rely on NIH funding must align themselves with the NIH's research agenda, which is heavily focused on biomedical research rather than translational research practices. However, in 2012 the NIH established the National Center for Advancing Translational Sciences which will help increase the implementation of interventions and collaborative partnerships to address community health (HHS, 2019).

The social controls in academic settings include the reward and tenure promotion system for faculty, and these are part of the institution's organizational culture (Stevens, 2000). Tenure is described as an employment contract between an academic institution and a faculty

member which provides a "mutually beneficial, reciprocal relationship [with] guaranteed job security, autonomy in the exercise of their responsibilities, and academic freedom at their institutions" (Gappa, Austin, & Trice, 2007, p. 129). Academic-community engagement lacks institutional policies such as formal structures and approaches that incorporate a supportive environment for faculty review, promotion, and tenure process based on community engagement scholarship (Calleson, Seifer, & Maurana, 2002; DiGirolamo et al., 2012; Seifer, Blanchard, Jordan, Gelmon, & McGinley, 2012). In their assessment of academic, public health practices among accredited schools of public health, Potter and Eggleston (2003) found that faculty community engagement happened outside of structural, organizational agreements or financial and scholarly recognition. Consequently, having a system in place that champions a supportive culture of rewards is essential for academic-community engagement to happen (Blanchard, Strauss, & Webb, 2012).

Institutional leaders are at the forefront of their organization to carry forth the development and shaping of their organization's culture, adding value to the work done inside those institutions (Stevens, 2000). In academia, leaders have a strong influence on transmitting the organizational values and orientations to its members; however, they rely heavily upon the culture and ideology as established within the organization (Alvesson, 2002). Dodds et al. (2003) used Stevens' model to evaluate the structure and culture related to academic, public health practices among 22 accredited schools of public health. Their study found that leadership (a dean or associate dean), senior faculty, and the value placed on practice-based research were associated with academic, public health practices. These findings illustrate how formal and informal organizational leaders can cultivate an engaging academic environment. Hence, the present culture and ideology of a specific institution can also influence the leaders' practices

and behavior (Eddy, 2005). Culture and ideology also affect how academic engagement is rewarded.

In their analysis, Dodds et al. (2003) application of Stevens' model accomplished assessing a culture of practice in schools of public health. Similarly, using Schein's organizational culture model will explore the visible artifacts or espoused values and beliefs that can impact a culture of engagement, from the perspective of the faculty's underlying assumptions and beliefs. Therefore, Schein's model in the present study further explores the culture of faculty in SPHs, and relationships between health attitudes and academic-community engagement.

Theoretical Framework

The exploration of the culture of an organization provides a comprehensive view of the life of that organization. Schein defines culture as shareable assumed beliefs, values, and behavioral expectations that the organization creates over time, and strives to maintain and to share it with its new members (Schein, 2017). Culture embraces the norms and expectations of how people should behave and how things should be done within the organization (Glisson & James, 2002). In academia, culture is considered integrated when individuals share a collective, unified perspective, and harmonious relationships (Martin, 1992; Smerek, 2010). Schein's model comprises three different levels: artifacts, espoused beliefs and values, and basic underlying assumptions; and they all shape the culture of an organization (Schein, 2010, 2017). Health culture and academic-community engagement at SPHs were explored using Shein's model.

Currently, schools and colleges of public health are being challenged to lead the way on teaching and research, and also on taking a more proactive approach to shape a culture of health, inside and outside of their institutions. Traditionally, these institutions were rooted in a scientific

research agenda (Beere, Votruba, & Wells, 2011; Fee, 2002); nevertheless, within a changing society, and to better prepare the next generation of health practitioners, they have deliberately increased their focus on practice-based teaching models (Bialek, 2000; Gebbie, Rosenstock, & Hernandez, 2003; Stevens, 2000; Wright, Nelson & Potter, 1999). However, at the organizational level, research has demonstrated the need for academic institutions to develop supportive processes to enable them to become ideal platforms of true academic-community engagement (DiGirolamo, Geller, Tendulkar, Patil, & Hacker; 2012; Nokes et al., 2013; Ladhani et al., 2013). Understanding whether a health culture is integrated into organizational culture, as reflected in the health attitudes of the faculty at schools and colleges of public health, will provide insight into the ways to increase future academic-community engagement by focusing on factors that promote stronger health attitudes.

The new, ambitious vision of the Robert Wood Johnson Foundation (RWJF) proposes building a national *Culture of Health* that calls for a well-orchestrated ensemble of different powers to unite across all sectors in a collaborative approach to create a healthier, more just, and equitable United States of America (RWJF, 2019). A culture of health is defined as a culture where everyone enjoys good health and well-being regardless of who they are or where they come from; a culture that supports healthy equitable communities and public and private decision making to allow for everyone to make healthy choices, and to live healthier lives (RWJF, n.d). The framework that drives these efforts has four different objectives that call communities into action: 1) *making health a shared value*; 2) *fostering cross-sector collaboration*; 3) *creating healthier, more equitable communities*; and 4) *strengthening integration of health services and systems*. The first action area, *making health a shared value*, highlights the importance of social connection and the role people and communities play in

fostering healthier communities (RWJF, 2019). The health attitudes survey measures the constructs that support this action area. Health attitudes are defined as individuals' attitudes, perceptions, values, prioritization of health, and consideration of issues related to health equity, which are influential factors on health. The main constructs for health attitudes include: value of health interdependence, which measures how well participants recognize that health is influenced by physical and social factors (e.g., peer, family, neighborhood, and workplace drivers of health); value on well-being, this value captures the valued investment in community health and well-being; emotional connection to the community, and community membership, which measure the sense of one's connection to the community (Carman et al., 2016, p. xi). Stronger health attitudes indicate stronger support for "making health a shared value" (RWJF, 2019). The RWJF's culture of health sparked an interest in exploring "*making health a shared value*" by analyzing health attitudes of faculty in schools and colleges of public health, and its relation to their academic-community engagement. This evaluation will provide insight into the schools and colleges of public health, as organizations, values, and expectations within a culture of health framework from a health attitude perspective.

Schein’s Organizational Culture

Multiple studies applied Schein's organizational model to explore issues related to faculty beliefs and post-tenure review (O'Meara, 2004), organizational culture, and the research administration profession (Lehman, 2017), and academic integrity and culture change (Gallant, 2007). Although the previous use of Schein's model in higher education provides strong support for the application of its framework to this study, it does not imply that this is the "best" model to study culture. Artifacts are organizational components within a culture that can be seen, heard, and felt. Some artifacts are easily observed, such as structures, processes, and apparent behavior.

Where others are not, such as employees' perception of the work, their interactions–inside and outside of the institution, and the meaning associated with the artifacts (Schein, 2017). In the present study, sociodemographic (academic status, concentration, race/ethnicity, sex, and level and type of academic-community engagement, were identified as *artifacts* within the culture of SPHs. The *espoused values and beliefs* are the organization's stated values and rules of behavior, including mission, vision, strategies, goals, and philosophies. These serve as a guide that drives the organization's purpose, decision making, and employees' behavior (Schein, 2017). Community engagement as part of service requirement and whether it is recognized at the institutional level or if service-learning is incorporated into teaching, job function time distribution, and funding sources represented the espoused values and beliefs in this study.

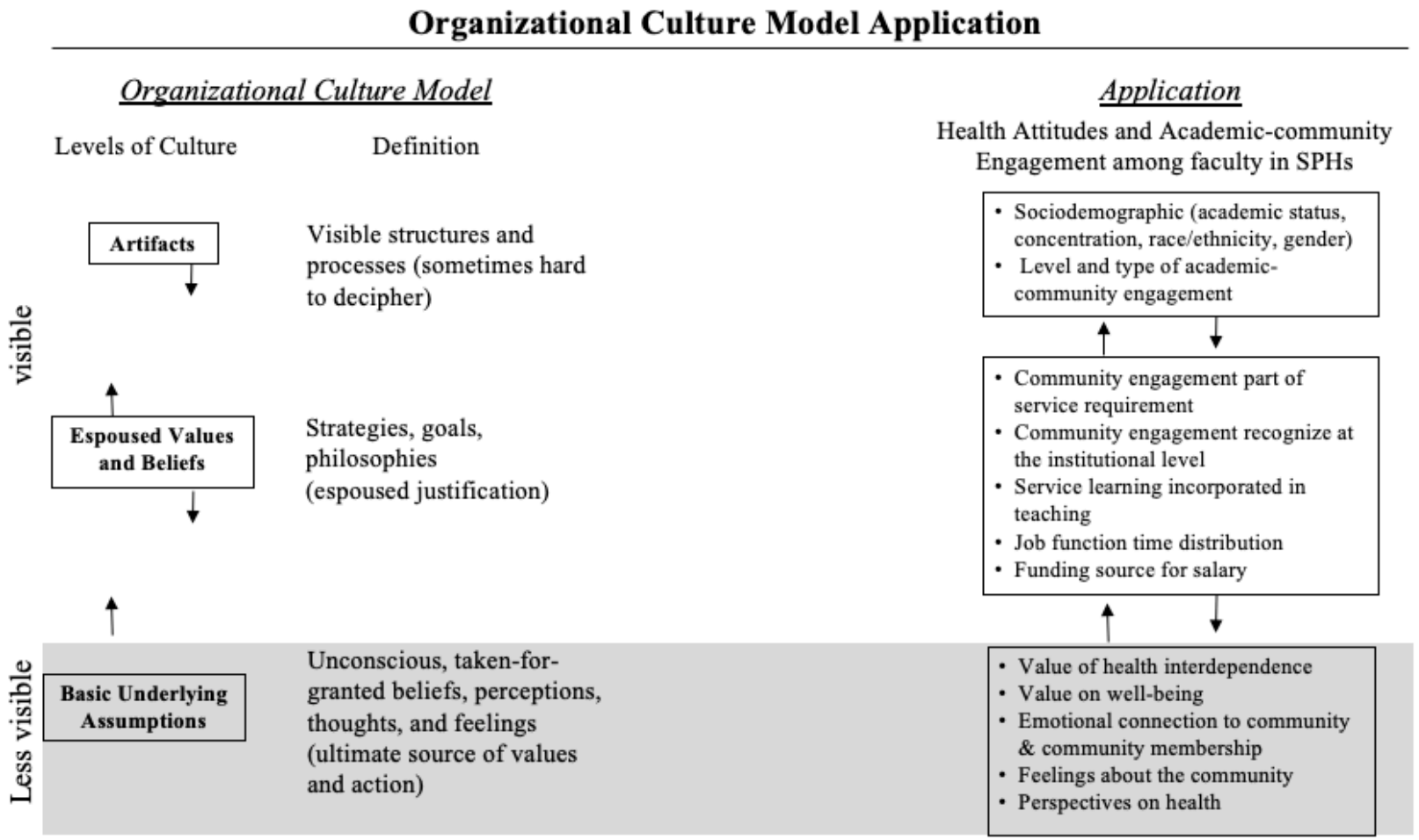
Moreover, basic underlying assumptions explain the behavior of the members of an organization, including their unconscious, taken-for-granted beliefs, perceptions, thoughts, and feelings (Schein, 2017). This level affords a more in-depth analysis of a culture, and the arrows in the model that points upward, indicate that this dimension of an organization impacts the other two levels (Schein, 2017). In this study, constructs identified as basic underlying assumptions, such as value of health interdependence, value on well-being, perspectives on health, connection and membership to the community, and a sense of community, provide a deeper understanding of the health attitudes among faculty and their role in academic-community engagement. Additionally, factors from previous studies that represent an engaged culture in academia were also displayed in the model under "culture of engagement," to demonstrate a good fit of the model to assess health attitudes through an organizational cultural lens, and its relationship with academic-community engagement.

Jeon, Sawan, Fois, and Chen (2016) employed Schein's model to evaluate visible organizational factors in nursing homes that affected the prescription behavior of psychotropic medicine among providers. The authors asked participants to describe the visible factors (artifacts), part of the culture of the nursing home, and the participants' perspectives on the use of psychotropic medicines. Findings demonstrate that the artifacts of the nursing homes (e.g., visitation of healthcare professionals, meetings, medication rounds) influenced the use of psychotropic medication among staff (Sawan, 2016). Similarly, in a different study, Schein's model was applied to explore research administration and knowledge management in higher education (Lehman, 2017). Lehman reported that organizational factors such as ideals, an opportunity for research, and system utilization were influential on knowledge management. Overall, these studies highlight the use of Schein's model as a good tool to delve into an exploration of the organizational culture of an institution.

Figure 1 demonstrates how Schein's organizational culture model (Schein, 2017) was applied to the current study. The study variables were defined under each of the three levels of culture to further assess health attitudes and academic-community engagement among the faculty of accredited schools and colleges of public health.

Figure 1

Schein's Organizational Cultural Model Application to Current Study



Chapter Summary

Academic-community engagement contributes to and promotes the health of the community (Hassmiller Lich, Frerichs, Fishbein, Bobashev, & Pentz, 2016; Wallerstein & Duran, 2010). Although research on academic organizational factors has identified agents within academia that influence academic-community engagement, no research has assessed faculty's health attitudes as factors that can shape the organization's culture. Therefore, it is important to research this area, specifically in schools and colleges of public health, because it can provide a baseline understating of the health culture of these institutions as well as insight on their efforts towards academic-community engagement. The reviewed literature described organizational factors that impact engagement in academic settings such as the norms that exist in the institutions, the value placed on engagement efforts, and rewards to work (Beere et al., 2011, Dodds et al., 2003; Seifer, Blanchard, Jordan, Gelmon, & McGinley, 2012). Although academic-community engagement has been evaluated through organizational theoretical models (Stevens, 2000), using Schein's organizational culture model provides a good fit to explore the relationship of health attitudes as basic underlying assumptions that can shape the culture of academic-community engagement at schools and colleges of public health (Schein, 2017).

The organizational culture model provides an in-depth analysis of health culture in schools and colleges of public health by evaluating faculty attitudes about health interdependence, value on well-being, perspectives on health, connections to and membership in the community, and a sense of community, and academic-community engagement. According to the model, these attitudes, or basic underlying assumptions of faculty in schools of public health, influence their academic-community engagement.

CHAPTER 3

METHODS

Community partnerships and collaborations have been found to facilitate engagement in academic community-based projects, but little is known about the faculty's health attitudes and their impact on academic-community engagement. Therefore, it is important to investigate this issue to strengthen collaborative efforts between SPHs and the community to address health disparities.

Research Design

A sequential, mixed-methods research design was used in this study. Both quantitative and qualitative data were collected; to gather a more profound understanding of the issue in question and to strengthen the validity and credibility of the study (Creswell & Plano Clark, 2011). The research questions were as follows:

RQ1. What are the health attitudes of faculty at SPHs?

RQ2. Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?

RQ3. What are the knowledge and attitude of faculty about the health culture in SPHs?

RQ4. What are the barriers and facilitators that impact academic community engagement?

Study Population

The population of interest for the study included faculty or lectures at accredited schools and colleges of public health. This population was reached through a stratified cluster sample of 21 accredited schools and colleges of public health (13 schools and 8 colleges), which are representative of the five U.S. regions: West, Southwest, Northeast, Southeast, and Midwest. According to the CEPH, as of 2018, there were 61 accredited SPHs in the U.S. (CEPH, 2018b). Additionally, 1,714 email invitations were sent out to individuals who were 18-years of age and older that were listed on each of the 21 selected school or college websites as faculty members or lectures. Table 1 provides a breakdown of the total number of selected accredited SPHs from each U.S. region and the number of faculty invited to participate in the survey and phone interview. The schools varied in terms of the number of departments, number of programs, faculty, and staff.

Table 1

Total Number of Selected Accredited SPHs from each U.S. Region and Number of Faculty Invited to Participate in the Survey and Phone Interview

Region/SPHs		Faculty Invited to Participate in Survey and Phone Interview
West		
	1	26
	2	134
	3	59
	4	103
Southwest		
	1	40
	2	64
	3	29
	4	74
Northeast		
	1	64
	2	23
	3	62
	4	46
Southeast		
	1	75
	2	38
	3	20
	4	73
	5	324
Midwest		
	1	62
	2	86
	3	243
	4	69
Total	**21**	**1714**

Recruitment of Participants

An Excel document was created with a list of all the accredited SPHs listed on the CEPHP website. The schools were then divided into the five U.S. regions based on their physical location, then a sample of SPHs was randomly selected for the study. The email addresses of the participants were obtained manually by visiting the websites of each of the selected SPHs. A list of all the email addresses was created and later imported into Qualtrics for distribution of the survey by email invitation only. Participants received a formal email invitation to participate in the study voluntarily. The email included a brief description of the

research, the benefits of such work, the public health implications of the findings, and the assurance and protection of their confidentiality. A link to the online survey was also included in the email, and participants had the option to opt-out from receiving further notifications or reminders about the survey. Upon completion of the survey, participants were also invited to participate in a semi-structured phone interview.

Sampling Procedure

Cluster sampling of schools and colleges to be included in the study, was used with the five U.S. regions) as clusters and number of SPHs in each region as the relative cluster size. Then, after estimating the total population (Scheaffer, Mendenhall, Ott, & Gerow, 2011) of SPHs to be included in the study, the number of SPHs was drawn from the total number of SPHs (61) by using a simple random sampling. This method allowed equal probability for any of the SPHs to be selected within the cluster. Their representatives were chosen from the websites of the selected SPHs, as described below.

Data Collection and Procedure

Data collection began after receiving IRB approval from Georgia Southern University. An online survey was created in Qualtrics, version 23, after approval from the IRB (see Appendix A). The online survey provided confidentiality for the participants. They were to skip over questions that they determined were irrelevant to their situation. An email was sent to all the faculty listed on each of the websites of the selected SPHs. The email included a brief description of the study, the benefits of such work, the public health implications of the findings, and it ensured that the survey was anonymous and confidential. The link to the online survey was embedded in the email. The survey remained accessible for the participants for four weeks, with two pre-programmed email reminders to follow as a reminder to complete the

survey. Once the participants clicked on the link, they were routed to the survey, and the first question asked them to agree to participate in the study by clicking a box on the first page of the survey before continuing. Once the participants completed the survey, they were thanked for participating and were then invited to participate in a follow-up semi-structured phone interview. At that point, participants who agreed were routed to a different survey where their email would be requested for future follow up. A list of participants who agreed to be interviewed was created, and each of the participants was contacted individually via email to request a meeting date and time for the phone interview. The raw data from the completed surveys were downloaded into IBM Statistical Package for Social Sciences (SPSS) for Mac, Version 26, (IBM Corp, 2019) for analysis.

Data were collected from June 24, 2019, to March 7, 2020. The online survey was emailed electronically to a total of 1,714 individuals who met the inclusion criteria from the 21SPHs selected. Forty-nine were excluded because the email bounced back by the system, or it was duplicate.

Instrumentation

The online survey consisted of three different sections (See Appendix B). The first section of the survey collected demographic information. The second section captured the main survey questions related to health attitudes among faculty, and the third section included the level and types of academic-community engagement. The survey contained 17 questions, and the approximate time to complete was between 10 to 15 minutes. The survey collected quantitative data. Before sending the survey out in the field, the survey was pilot tested with thirteen faculty members. These experts were asked to review the survey and to provide feedback on survey clarity, and to highlight any issues with it, or to contact the researcher to

discuss the issues. Participants of the pilot test provided feedback on a few technicalities of the survey, and those were addressed.

Quantitative data. An online quantitative survey was used to collect the following information: 1) sociodemographic characteristics of faculty at SPHs (e.g., academics, concentration, sex, race); 2) health attitudes of faculty at SPHs (e.g., value of health intercedence, value on well-being, feelings about the community); and 3) the level and type of community-academic engagement among faculty at SPHs (e.g., strategic planning, engagement in population heath activities, engagement at the individual level. The study survey used questions from the RWJF Health Attitudes Survey previously validated (Carman et al., 2016) to assess the participants' health attitudes. This survey was designed to assess the health values and beliefs among adult Americans. The survey is a good indicator of how supportive individuals were to *Making Health a Shared Value*, one of the RWJF Culture of Health framework's focus areas. This focus area suggests that when individuals embrace health as a shared value through the fostering of "building an enhanced sense of health interdependence and community as well as increased civic engagement," they would be more likely to be supportive of actions leading to a national culture of health (Carman at al., 2016). The questions selected for this study measure five constructs, including value of health interdependence, value on well-being, perspectives on health, sense of community (emotional connection to the community and membership in the community), feelings about the community, and perspective on health. Survey data were imported from Qualtrics software into SPSS. Previously, a codebook was developed by the researcher using the questions from the survey, and the imported data were cleaned and recoded as needed for each of the variables.

Community-engagement was divided into six different sections; 1) engagement in population health activities; 2) engagement within parent institution; 3) engagement with health care system organizations; 4) engagement with local government agencies; 5) engagement with state agencies, and 6) engagement with other organizations. Under each of the sections, a new variable was computed for each of the different types of activities by adding the responses across four levels of engagement: engagement at the individual faculty engaged independently, included or recognized in school or college annual plan or strategic plan, specific contracts or agreements in place to provide these services to external groups, and other levels of engagement. The summative average of the new variables was computed by adding all the new variables and dividing them by the total number of activities within each of the respective sections.

Health Attitudes variables and academic-community engagement variables were recoded to create a total score for value of health interdependence and value on well-being, for the emotional connection to the community, and for community membership to their community.

Health attitudes variables. Value of health interdependence was captured by asking participants to rate a series of six different statements that affected people's health such as "where a person lives," and "community safety." Each statement was rated on five-point Likert scale (from 0 = no effect to 5 = very strong effect). Then, a summative average was computed across the six items to get a person's overall score for value of health interdependence. The average score for value of health interdependence ranged from 1 to 5 (1 - 2.9 = very weak or weak; 3 - 3.9 = moderate; or 4 – 5 = strong or very strong). To assess value on well-being, participants were presented with five different statements and they were told that these were a

list of goals that some people think are important for communities in the U.S. They were asked to indicate whether they thought each of the goals was a "top priority," "important but not a top priority," or "not a priority at all." For this study, responses "important but not top priority" and "not a priority at all" were combined and coded as "not top priority," and was scored as 0, and top priority was scored as 1. A summative average score was computed across the five statements to create an individual's score for value on well-being.

Lastly, the sense of community was evaluated using two six-items scales that assessed individual's emotional connection the community, and community membership. Participants were asked to rate the statements on a four-point Likert scale from not at all (0) to completely (3). Some of the statements for the emotional connection scale included items such as "I can trust people in this community," and "I put a lot of time and effort into being part of this community," and "being a member of my community is part of my identity," as well as "members of this community care about each other" for the community membership scale. A summative average score across all six items was calculated for each of the scales, to indicate an individual's score for emotional connection the community, and community membership. The total summative average scores represented three different categories (0 – 0.9 = weak; 1 - 1.9 = moderate; 2 – 3 = strong).

Feelings about the community, and perspective on health had different types of responses. For example, participants were asked to rate items they thought affected people's health and well-being, such as "my community can work together to improve its health," an "my community has resources to improve its health." Responses were scored on a four-point Likert scare (0 = not at all to 3 = completely). Other questions were related to perspective on health and asked participants what they thought about the health of their community. The

responses included "healthy," "unhealthy," and "in-between." Lastly, participants were also asked to indicate if they agreed or disagreed with a statement about making a health difference through involvement, such as "I think even if I get involved, I really can't make a difference on behalf of health in my community." These were rated on a five-point Likert scale ranging from "1 = strongly disagree" to "5 = strongly agree."

Academic-community engagement variables. The second part of the qualitative survey tool captured academic-community engagement. The ASPPH Survey on Population Health was used to assess the academic-community engagement. The survey ASPPH survey assessed participants' perceptions of their school or college engagement in population health and population health issues. Participants were asked to indicate the population health activities, the working relationships, and level of engagement that their school or college was currently engaging in, within their parent institution, and with external organizations. ASPPH acknowledges that schools and programs of public health working relationships on population health issues withing the institutions or with external organizations such as the health care system, local government, and state agencies, other types of organizations have a crucial impact on population health (ASPPH, 2018).

The ASPPH survey is composed of five different constructs with various questions; however, only two of the five constructs were used for this study. Under the first constructs for Current Population Health Activities, participants were asked to select from a list of activities in which their schools or college is currently engaged on such as "strategic planning and affiliation with external entities," "convening cross-sectoral partner," and "providing expertise in community engagement." The level of engagement for this construct included five different options "individual faculty engaged independent," "included in our school's program annual

work plan or strategic plan," "specific contracts or agreements in place to provide these services to external groups," "other," and "none."

The second construct of the ASPPH survey asks participants to describe their school or college engagement in current working relationships on population health activities with different groups within their parent institutions and with other external groups from different sectors (the health care system, local government, and state agencies, other types of organizations). For engagement within the schools or colleges, participants were provided a list of different groups to choose from, such as "medical school," "school of nursing," and "business management and laws schools." External groups included health care system organizations such as "hospital," "health plan/insurance companies," and the "VA." At the local and state level, the organizations included "public health agency," "transportation," and "public health department." Lastly, for other types of organizations, the list included the "Centers for Disease Control and Prevention," the "National Institutes of Health," and the "World Health Organization." Under each of the different types of relationships, participants are asked to describe the level engagement by selecting from "no current relationship," "individual faculty engaged independent," "included in our school's program annual work plan or strategic plan," "specific contracts or agreements in place to provide these services to external groups," "other," and "don't know." (ASPPH, 2018). See Appendix B for a full copy of the survey, which includes a consent form.

Six variables were computed to describe academic-community engagement (engagement in population health activities; engagement within the parent institution; engagement with health care system organizations; engagement with local government agencies; engagement with state agencies; and engagement with other organizations).

Responses under each of the engagement variables were computed by creating a new variable for the various activities that participants perceived their college or school were engaging using scores of 1 yes and 0 for no. Then, these were added across four levels of engagement: engagement at the individual faculty engaged independently, included or recognized in school or college annual plan or strategic plan, specific contracts or agreements in place to provide these services to external groups, and other levels of engagement. Later, the average summative score of the new activity variables was computed by adding all the new variables and dividing them by the total number of activities within each of the respective sections. This procedure resulted in the six variables that described academic-community engagement.

Qualitative data**.** Participants were invited to participate in a semi-structured phone interview after they completed the primary survey. The second survey included a consent form for participants to consent to be contacted for the phone interview. A second consent form was emailed to participants who consented to participate in the phone interview. The researcher obtained signed consent forms before each interview (see Appendix C). Participants were informed that the interview took 25 to 45 minutes, that their participation was voluntary, and that their survey responses would not be linked to their interview responses. Participants' names and email addresses were used only for contact purposes to schedule the interviews. During the interview, names and contact information were not collected. Participants were given the option to decline participation in the phone interview at any point in the interview process. The second part of the ASPPH Population Survey (2018) included a script with questions for the survey interview. The researcher used the ASPPH script to create an interview guide for the present study to guide the participants through the interview questions (See Appendix D). The

interviews were audio-recorded, transcribed verbatim, and entered into QSR NVivo, version 11 software (NVivo, n.d) for analysis.

Additionally, a follow-up semi-structured interview captured qualitative data that included: 1) knowledge and attitudes of faculty about the health culture in SPHs; and 2) barriers and facilitators to academic-community engagement. Figure 2 provides a description of the research variables with instrument question numbers, variable names, response values, constructs linked to each research questions, and Cronbach's alphas. See Appendix E for a full detailed table with research questions and analysis.

Figure 2

Variables Description Table with Instrument Question Numbers, Variable Names, Response Values, Cronbach's Alpha, Type of Variable, and Construct Linked to each Research Questions.

Research Question	Instrument Question #	Variable	Response Value	Cronbach's Alpha	Construct
	1	Academic status	1=Faculty member tenured; 2=Faculty member on a tenure track; 3=Lecturer; 4=Other		Demographics
	2	Concentration	(0=no; 1=yes) Community Health Promotion; Health Science; Social and Behavioral Science; Environmental Science; Epidemiology; Biostatistics; Health Policy and Management; Population Health Global Health; Other		Demographics
	3	Community engagement as service requirement	0=no; 1=yes; 3=Don't know		Demographics
	4	Community engagement recognize at the institutional level	0=no; 1=yes; 3=Don't know		Demographics
	5	Service learning, incorporated in teaching	0=no; 1=yes; 3=I don't teach		Demographics
	6	Community engagement recognized during the review, tenure, or promotion process in your school/college	0=no; 1=yes; 3=Don't know		Demographics
	7	Job function percentage time distribution for teaching, research, and service	None		Demographics
	8	Funding source for salary	None		Demographics
	9	Type of contract	1= 9 or 10-month; 2=12-month contract; 3-Other		Demographics
					(continued)

Research Question	Instrument Question #	Variable	Response Value	Cronbach's Alpha	Construct
	10	Distance from school or college	1= <than 5 miles; 2= 6-10 miles; 3= 11 to 15 miles; 4=16-20 miles; 5= 21-25 miles; 6=> than 25 miles		Demographics
	11	Sex	1= Male; 2=female; 3=Other		Demographics
	12	Race	(0=no, 1=yes) White; Black or African American; American Indian or Alaska Native; Asian; Native Hawaiian or Pacific Islander; From multiple races; Other		Demographics
	13	Spanish, Hispanic, or Latino	0=no; 1=yes		Demographics
	14	State of school or college	Drop down menu		Demographics
	15	U.S regions	1=Midwest; 2=Northeast; 3=Southeast; 4=Southwest; 5=West		Demographics
RQ1: What are the health attitudes of faculty and lectures at SPHs? RQ2: Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?	16	Factors that affect people's health and well-being: • Neighborhood options for healthy food and exercise • Amount of social support • Physical environment such as clean air and water • Community safety • Where a person lives • Examples set by people around you	1= No effect to 5=very strong effect	.85	Value of health interdependence
RQ1: What are the health attitudes of faculty and lectures at SPHs?	17	Health of the community	0= Unhealthy; 1=in-between; 2=healthy		Perspective on health

(continued)

Research Question	Instrument Question #	Variable	Response Value	Cronbach's Alpha	Construct
RQ1: What are the health attitudes of faculty and lectures at SPHs? RQ2: Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?	18	Goals that some people think are important for communities in the U.S: • Making sure that the disadvantaged have an equal opportunity to be healthy • Making sure that healthy foods are for sale at affordable prices in communities where they are not • Making sure that there are safe, outdoor places to walk and be physically active in communities where there aren't any • Making sure that there is decent housing available for everyone who needs it • Making sure that there are bike lanes, sidewalks for walking and public transportation available so that people do not have to always rely on cars	1= Top priority; 2=Important but not top priority; 3= Not a priority at all	.78	Value on well-being (continued)

Research Question	Instrument Question #	Variable	Response Value	Cronbach's Alpha	Construct
RQ1: What are the health attitudes of faculty and lectures at SPHs? RQ2: Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?	19	Statements on feelings about the community: • I can trust people in this community • I Can recognize most of the members of this community • Most community members know me • This community has symbols and expressions of membership such as clothes, signs, art, architecture, logos, landmarks, and flags that people can recognize • I put a lot of time and effort into being part of this community • Being a member of this community is part of my identity	0= Not at all; 1=somewhat; 2=mostly; 3=completely	.75	Emotional connection to community
RQ1: What are the health attitudes of faculty and lectures at SPHs? RQ2: Is there a relationship between health attitudes and academic-community engagement		• It is very important to me to be a part of this community • I am with other community members a lot and enjoy being with them • I expect to be part of this community for a long time • Members of this community have shared important events together, such as holidays, celebrations, or disasters • I feel hopeful about the future of this community		.82	Community membership

(continued)

Research Question	Instrument Question #	Variable	Response Value	Cronbach's Alpha	Construct
among faculty at SPHs?		• Members of this community care about each other			
RQ1: What are the health attitudes of faculty and lectures at SPHs?	20	Working together to make a healthier place	1=Worked together, it would be easy make it a healthier place to live; 2=Worked together, it would not be easy, but it would be possible to make it a healthier place; 3=Worked together, it would be impossible to make it a healthier place		Perspective on health
RQ1: What are the health attitudes of faculty and lectures at SPHs?	21	Getting involved, I really can't make a difference on behalf of health in my community	1= Strongly disagree to 5=strongly agree		Perspective on health (continued)
RQ2: Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?	22	Engagement in population health activities	Individual faculty engaged independently (no formal approach of the schools or college); Included in our school or college annual a plan or strategic plan; Specific contracts or agreements in place to provide these services to external groups; Other (describe in comment box below); None (not involved in this activity) 0=No; 1=Yes	.80	Engagement in population health activities
RQ2: Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?	23	Engagement in working relationships within parent institution	No current relationship: Individual faculty engaged independently (no formal approach of the schools or college); Relationship is recognized in our school or program annual work plan or strategic plan; Specific contracts or agreements in place to provide services; Other (describe in comment box below); Don't know Not applicable 0=No; 1=Yes	.80	Engagement within the parent institution (continued)

Research Question	Instrument Question #	Variable	Response Value	Cronbach's Alpha	Construct
RQ2: Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?	24	Engagement in working relationships with external organizations: Health care system organizations	No current relationship: Individual faculty engaged independently (no formal approach of the schools or college); Relationship is recognized in our school or program annual work plan or strategic plan; Specific contracts or agreements in place to provide services; Other (describe in comment box below); Don't know Not applicable 0=No; 1=Yes	.81	Engagement with health care system organizations
		Engagement in working relationships with external organizations: Local (municipal, city or county) government agencies	No current relationship: Individual faculty engaged independently (no formal approach of the schools or college); Relationship is recognized in our school or program annual work plan or strategic plan; Specific contracts or agreements in place to provide services; Other (describe in comment box below); Don't know Not applicable 0=No; 1=Yes	.81	Engagement with local (municipal, city or county) government agencies
		Engagement in working relationships with external organizations: State agencies	No current relationship: Individual faculty engaged independently (no formal approach of the schools or college); Relationship is recognized in our school or program annual work plan or strategic plan; Specific contracts or agreements in place to provide services; Other (describe in comment box below); Don't know Not applicable 0=No; 1=Yes	.86	Engagement with state agencies

(continued)

Research Question	Instrument Question #	Variable	Response Value	Cronbach's Alpha	Construct
		Engagement in working relationships with external organizations: Other organizations	No current relationship: Individual faculty engaged independently (no formal approach of the schools or college); Relationship is recognized in our school or program annual work plan or strategic plan; Specific contracts or agreements in place to provide services; Other (describe in comment box below); Don't know Not applicable 0=No; 1=Yes	.93	Engagement with other agencies

Quantitative Analysis

Descriptive statistics, including frequency counts and percentages for categorical variables, and mean and standard deviation for continuous variables. A Spearman rank-order correlation was used to assess the association between health attitudes, including (value of health interdependence, value on well-being, emotional connection to the community, and community membership), and academic-community engagement.

Qualitative Analysis

The qualitative data from the semi-structured phone interviews were audio-recorded, transcribed verbatim. The analysis of the interviews included a content analysis approach using: 1) the NVivo to organize the data, 2) open coding to develop categories, axial coding, and selective coding, and 3) the use of content comparative analysis approach, a process of going back and forth through the transcripts looking for similarities and differences between the emergent codes and theory (Willig, 2013). Each transcription was reviewed and coded independently by two coders. Later, to ensure inter-rater reliability (Trochim, 2006), the two coders reviewed and discussed their coding. Lastly, data were analyzed, and themes were developed.

Compliance with Ethical Guidelines

The study complied with the ethical guidelines of Georgia Southern University and the Association Public Health Association's Code of Ethics. All data were de-identified to protect participants' privacy. Informed consent was obtained when participants agree to complete the online survey. Additionally, participants who agreed to participate in the semi-structured phone interview completed a second consent form that was emailed to them, for signature, before the interview. All consent forms and transcripts will be kept for up to five years after the study is

completed. All data will be kept for the study's duration, and it will be destroyed five years after completion of the study.

Chapter Summary

The methods chapter provided a detailed analysis of the data and methodological approach used to examine academic-community engagement by exploring the health attitudes and academic-community engagement of faculty at accredited schools and colleges of public health using mixed-methods research designed. Frequencies, and percentages for categorical variables, and mean, and standard deviation were calculated for all continuous variables. A Spearman rank-order correlation was used to assess the association between health attitudes and academic-community engagement. The analysis also included a comparative content analysis of themes that emerged from the interviews.

This study addresses the literature gaps about exploring academic-community engagement and health attitudes within SPHs as higher education organizations as a baseline understating of the health culture of these institutions. The following chapter will introduce the results of the statical analysis discussed in this chapter. The study results will shed light on the faculty's current health attitudes at SPHs, perception of academic-community engagement, relationships between these two variables, and barriers and facilitators to academic-community engagement.

CHAPTER 4

RESULTS

The results will be presented in two sections. The first section presents the descriptive results of the quantitative data, including demographics, health attitudes, and type and level of academic-community engagement. Results will include descriptive statistics and relationship analysis. The second section provides the qualitative results from the interviews, with demographics and thematic analysis of significant themes, subthemes, and selected quotes. Additionally, data will be connected to the theoretical model.

Demographics

The total sample size included 147 participants from 21 SPHs. Table 2 provides the total number of selected accredited SPHs from each U.S. region and number of faculty invited to participate in the survey and phone interview, and the actual number of total participants.

Table 2

Selected Accredited SPHs from each U.S. Region and Number of Faculty Invited to Participate in the Survey and Phone Interview

Region/SPHs	Faculty Invited to Participate on Survey and Phone Interview	Survey Response	Phone Interview Response
West			
1	26	6	1
2	134	14	0
3	59	5	2
4	103	5	0
Southwest			
1	40	2	0
2	64	7	0
3	29	3	0
4	74	10	0
Northeast			
1	64	3	0
2	23	2	0
3	62	*	0
4	46	7	1
Southeast			
1	75	6	1
2	38	13	0
3	20	**	0
4	73	12	0
5	324	11	0
Midwest			

(continued)

Region/SPHs	Faculty Invited to Participate on Survey and Phone Interview	Survey Response	Phone Interview Response
1	62	8	1
2	86	5	0
3	243	13	2
4	69	4	0
Missing		11	
Total 12		**147**	**8**

Notes: * total number of responses for SPHs 3 and 4 in the Northeast region was 7, unable to separate them because both SPHs were in the same region and same state,
** total number of responses for SPHs 3 and 1 in the Southeast region was 6 unable to separate them because both SPHs were in the same region and same state.

Table 3 includes demographics for academic type, concentration, contract, race, ethnicity, and U.S. Region for study participants. The majority of participants were tenured faculty members (42.9%), followed by faculty members on a tenure track (21.1%), and 17.7% held other academic roles such as instructional assistant professors and lecturers. The top three academic concentrations were epidemiology (17.9%), social and behavioral science (17.9%), and 13.8% other concentration. Also, more participants were contracted on a 12-month contract (47.6%), majority were White (74.8%), females (66.7%), non-Hispanic (91.8%), from the Southeast U.S. region.

Table 3

Description of Demographic Variables: Academic Type, Concentration, Contract, Race, Ethnicity, and U.S. Region (n = 147)

Variable	n	%
Academic		
Faculty member tenured	63	42.9
Faculty member on a tenure track	31	21.1
Other	26	17.7
Missing	21	14.3
Concertation		
Community Health Promotion	29	19.7
Health Science	6	4.1
Social and Behavioral Science	38	25.9
Environmental Science	15	10.2
Epidemiology	35	23.8
Biostatistics	13	8.8
Health Policy and Management	22	15.0
Population Health	17	11.6
Global Health	15	10.2

(continued)

Variable	n	%
9 or 10-month contract	69	46.9
12-month contract	70	47.6
Other	7	4.8
Missing	1	0.7
Sex		
Male	48	32.7
Female	98	66.7
Missing	1	0.7
Race		
White	110	74.8
Black or African American	14	9.5
American Indian or Alaska Native	0	0
Asian	14	9.5
Native Hawaiian or Pacific Islander	2	1.4
From multiple races	4	2.7
Other	2	1.4
Missing	2	0.7
Ethnicity		
Spanish, Hispanic or Latino		
Yes	10	6.8
No	135	91.8
Missing	2	1.4
U.S. Region		
Midwest	30	20.4
Northeast	12	8.2
Southeast	42	28.6
Southwest	22	15.0
West	30	20.4
Missing	11	7.5

Table 3.1, provides a description of demographic variables that included community engagement as part of service requirement, recognized by the institution, and service-learning incorporation in teaching. Results show that for more than half of the participants (59.9%), community engagement was not part of their service requirement, whereas community engagement was recognized at the institutional level for 81.0%, and service-learning was incorporated in teaching for more than half of the participants (51.0%).

Table 3.1

Description of Demographic Variables: Community Engagement as Part of Service Requirement, Recognized by the Institution, and Service-Learning Incorporation in Teaching (n = 147)

Community engagement part of your service requirement		
Yes	55	37.4
No	88	59.9
Don't know	4	2.7
Missing	0	0
Community engagement recognized at the institutional level		
Yes	119	81.0
No	15	10.2
Don't know	7	4.8
Missing	6	4.1
Service-learning incorporated in teaching		
Yes	75	51.0
No	63	42.9
I don't teach	8	5.4
Missing	1	0.7

Moreover, participants were asked to report what percentage of their time devoted to teaching, research, and service. Participants in the 50th percentile spent equal amount of time (40%) on teaching and research, and 20% on service (see Table 4).

Table 4

Job Function Time Distribution Deciles Percentages for Teaching, Research, and Service

	Job function time distribution teaching	Job function time distribution research	Job function time distribution service
Percentiles			
10	10	19	5
20	20	25	10
30	25	30	10
40	30	40	11
50	40	40	20
60	40	50	20
70	40	50	25
80	50	60	30
90	62	75	40
Missing	0	0	0
Total	147	147	147

Lastly, Table 5 demonstrates that the average percentage of salaries based on soft money was 49.8%.

Table 5

Mean, Median, and Range of Percentage of Funding Source as Soft Money

Mean	49.8
Median	49.5
Minimum	5.0
Max	100.0

Health Attitudes

Health attitudes were measured using The Robert Wood Johnson Foundation's (RWJF) Health Attitudes Survey, the tool assesses individuals' attitudes and perspectives around the "Culture of Health," with an emphasis in constructs that support "*making health a shared value*," an area of the RWJF Culture of Health framework (Carman et al., 2016). These specific constructs include value of health interdependence which reflects participants' beliefs that others influence their health, value on well-being which highlights community investment in well-being, and sense of community which includes emotional connection and membership to the community regarding individual health attitudes and values (Carman at al., 2016). Individuals are more likely to support actions that lead to a national culture of health when they demonstrate strong health attitudes, as indicative of embracing health as a shared value (Carman at al., 2016). Table 5 presents a list of the health attitudes and perspectives

RQ1. What are the health attitudes of faculty at SPHs? Table 6 provides a breakdown of the results for all the health attitudes variables including the number of respondents, percentages, mean, standard deviation, and the range of possible scores. The mean score for value of health interdependence was 4.4 (SD = 0.52), the mean value on well-being score was 0.65 (SD = 0.33), the mean score for emotional connection to the community was 1.18 (SD = 0.54), and

community membership was 1.40 (SD = 0.60). The next four questions assessed individuals' feeling about their community. The mean score for "communities can work together to improve its health" was 1.53 (SD=0.81), "community has resources to improve its health" (M=1.8, SD=0.87), "communities can work together to make positive changes for health" (M=1.31, SD=0.82), and "I know my neighbors will help me stay healthy" (0.79, SD=.79). Participant perspectives on health included the health of the communities, the mean score for health of the community was 1.58 (SD = 0.56). Participants were asked how easy it was for people to work together to make their community healthier, the mean score for working together to make a heathier place to live was 1.75 (SD = 0.48). Lastly, the mean score for not being able to make a difference was 2.29 (SD = 1.07).

Table 6

Descriptive Statistics for Health Attitudes (n = 147)

Variable	Respondent #	%	Mean	Std	Range
Value of health interdependence (very weak or weak = 1 - 2.9; moderate = 3 - 3.9; strong or very strong 4-5)	145	98.6	4.4	0.52	2.83 - 5.00
Value on well-being (0= not top priority or not a priority; 1= top priority)	147	100	0.65	0.33	0.00 - 5.00
Sense of community					
Emotional connection to community (0 - 0.9 = weak; 1 - 1.9 = Moderate; 2 - 3 = strong)	142	96.6	1.18	0.54	0.17 - 2.50
Community membership (0 - 0.9 = weak; 1 - 1.9 = moderate; 2 - 3 = strong)	140	95.2	1.40	0.60	0.00 - 3.00
Feelings about the community					
My community can work together to improve its health (0 = not at all to 3 = completely)	144	98.0	1.53	0.81	0 .00 - 3.00
My community has resources to improve its health (0 = not at all to 3 = completely)	144	98.0	1.8	0.87	0 .00 - 3.00
My community works together to make positive changes for health (0 = not at all to 3 = completely)	143	97.0	1.31	0.82	0.00 - 3.00
I know my neighbors will help me stay healthy (0 = not at all to 3 = completely)	142	96.5	0.79	0.79	0.00 - 3.00
Perspective on health					
Health of the community (0=unhealthy; 1= in-between; 2 = healthy)	145	98.6	1.58	0.56	0.00 - 2.00
Working together to make a healthier place (0 = it would be easy; 2 = it would not be easy, but it could be possible; 3 = it would be impossible)		96.6	1.75	0.48	1.00 - 3.00
Getting involved can't make a difference (1 = Strongly disagree to 5 = strongly agree)	143	97.3	2.29	1.07	1.00 - 5.00

Academic-community Engagement

Academic-community engagement was measured using the Association of Schools and Programs of Public Health Population Survey (ASPPH, 2018). The survey assesses participants' perception of their school or college academic-community engagement in population health and population health issues. First, tables 7 through 12 present the descriptive findings for type engagement in population health activities; engagement within the parent institution; engagement with health care system organizations; engagement with local government agencies; engagement with state agencies; and engagement with other organizations. The population health activity

with the highest engagement (53.7%) was providing expertise in community engagement at the individual level, followed by convening cross-sectoral partners (51.0%) when it is included in the school or college annual plan or strategic plan (see Table 7). The narrative in Table 8 demonstrates that within the parent institution, most of the engagement was at individual faculty engagement level with nursing (53.1%), medical (52.4%), and business management and, or law schools (46.3%). Table 9 shows that working relationships with health care system organizations were mostly with hospitals (51.7%) and federally qualified health centers, community health centers, rural health clinics or free clinics (51.7%), and the "VA (Veteran's Administration) 50.3%, also at the individual faculty level. Working relationships with local municipal, city, or county government (see Table 10) mostly involved working with policy/legislative (59.9%) agencies, housing/community development (50.3%), and human services (49.7%) organizations. Most of the local engagement was at the individual level. The most common working relationships with state agencies happened at the individual level with policy/legislative agencies (53.1%), public health departments (50.3%), and 49.7% for human services organizations (see Table 11). Lastly, most of the engagement with other types of organizations was with the Centers for Disease Control and Prevention (61.9%), the National Institutes of Health (59.9%), and 57.8% with minority groups, all at the individual level (see Table 12).

Table 7

Descriptive Statistics for Type and Level of Engagement in Population Health Activities (n= 147)

Type of activity	Level of engagement									
	Individual faculty engaged independently (no formal approach of the school or college)		Included in school or college annual plan or strategic plan		Specific contracts or agreements in place to provide these services to external groups		Other		None	
	Respondent		Respondent		Respondent		Respondent		Respondent	
	#	%	#	%	#	%	#	%	n	%
Strategic planning and facilitation with external entities	60	40.8	72	49.0	53	36.1	2	1.4	12	8.2
Convening cross-sectoral partners	65	44.2	75	51.0	44	29.9	2	1.4	10	6.8
Providing expertise in community engagement	79	53.7	68	46.3	45	30.6	1	0.7	6	4.1
Other engagement in population health activities	7	4.8	4	2.7	1.0	0.7	1	0.7	12	8.2

Table 8

Descriptive Statistics for Type and Level of Engagement Within Parent Institutions (n = 147)

Type of Engagement	Level of engagement: No current relationship		Individual faculty engaged independently (no formal approach of the school or college)		Relationship is recognized in our school or program annual work plan or strategic plan		Specific contracts or agreements in place to provide services		Other		Don't know	
	Respondent		Respondent		Respondent		Respondent		Respondent		Respondent	
	n	%	n	%	n	%	n	%	n	%	n	%
Medical school	8	5.4	77	52.4	38	25.9	31	21.1	1	0.7	17	11. 6
School of pharmacy	17	11.6	49	33.3	14	9.5	10	6.8	1	0.7	56	38.1
School of nursing	11	7.5	78	53.1	27	18.4	18	12.2	1	0.7	25	17.0
School of dentistry	17	11.6	46	31.3	12	8.2	6	4.1	2	1.4	61	41.5
Teaching hospital affiliated with your parent institution	17	11.6	61	41.5	29	19.7	24	16.3	1	0.7	27	18.4
Other clinical partners affiliated with your parent institution	10	6.8	66	44.9	25	17.0	25	17.0	1	0.7	30	20.4
Business management and/or law schools	11	7.5	68	46.3	25	17.0	11	7.5	2	1.4	27	18.4
Other partner institutions	3	2.0	4	2.7	3	2.0	1	0.7	1	0.7	39	26.5

Table 9

Descriptive Statistics for Type and Level of Engagement with External Organizations: Health Care System Organizations (n = 147)

Type of engagement	Level of engagement											
	No current relationship		Individual faculty engaged independently (no formal approach of the school or college)		Relationship is recognized in our school or program annual work plan or strategic plan		Specific contracts or agreements in place to provide services		Other		Don't know	
	Respondent		Respondent		Respondent		Respondent		Respondent		Respondent	
	n	%	n	%	n	%	n	%	n	%	n	%
Hospitals	9	6.1	76	51.7	35	23.8	33	22.4	1	0.7	16	10.9
Medical groups	10	6.8	72	49.0	25	17.0	25	17.0	1	0.7	26	17.7
Federally qualified health centers, community health centers, rural health clinics or free clinics	9	6.1	76	51.7	31	21.1	31	21.1	14	9.5	21	14.3
Health plans/insurance companies	13	8.8	65	44.2	18	12.2	27	18.4	16	10.9	32	21.8
The VA (Veteran's Administration)	16	10.9	74	50.3	17	11.6	21	14.3	0	0	23	15.6
Other health care system	0	0	9	6.1	4	2	1.4	4	2.7	0	39	26.5

Table 10

Descriptive Statistics for Type and Level of Engagement with External Organizations: Local (Municipal, City or County) Government Agencies (N = 147)

Type of engagement	Level of engagement: No current relationship		Individual faculty engaged independently (no formal approach of the school or college)		Relationship is recognized in our school or program annual work plan or strategic plan		Specific contracts or agreements in place to provide services		Other		Don't know	
	Respondent		Respondent		Respondent		Respondent		Respondent		Respondent	
	n	%	n	%	n	%	n	%	n	%	n	%
Public health agency	2	1.4	72	49.0	64	43.5	49	33.3	13	8.8	10	6.8
Human services (not public health)	8	5.4	73	49.7	19	12.9	17	11.6	14	9.5	34	23.1
Public safety/policing	17	11.6	67	45.6	14	9.5	12	8.2	17	11.6	31	21.1
Housing/community development	10	6.8	74	50.3	13	8.8	8	5.4	0	0	35	23.8
Policy/legislative issues	4	2.7	88	59.9	28	19.0	16	10.9	0	0	22	15.0
Transportation	13	8.8	64	43.5	15	10.2	13	8.8	19	12.9	38	25.9
Other local municipal city or county agencies	6	4.1	21	14.3	7	4.8	6	4.1	1	0.7	33	22.4

Table 11

Descriptive Statistics for Type and Level of Engagement with External Organizations: State Agencies (N = 147)

Type of engagement	Level of engagement: No current relationship		Individual faculty engaged independently (no formal approach of the school or college)		Relationship is recognized in our school or program annual work plan or strategic plan		Specific contracts or agreements in place to provide services		Other		Don't know	
	Respondent		Respondent		Respondent		Respondent		Respondent		Respondent	
	n	%	n	%	n	%	n	%	n	%	n	%
Public health department	3	2.0	74	50.3	53	36.1	45	30.6	14	9.5	13	8.8
Human services (not public health)	9	6.1	63	42.9	20	13.6	17	11.6	16	10.9	41	27.9
Public safety/policing	17	11.6	50	34.0	17	11.6	3	2.0	18	12.2	47	32.0
Housing/community development	17	11.6	58	39.5	11	7.5	7	4.8	16	10.9	46	31.3
Policy/legislative issues	7	4.8	78	53.1	26	17.7	18	12.2	16	10.9	29	19.7
Transportation	18	12.2	52	35.4	8	5.4	6	4.1	16	10.9	52	35.4
Other state agencies	4	2.7	10	6.8	3	2.0	3	2.0	0	0	35	23.8

Table 12

Descriptive Statistics for Type and Level of Engagement with External Organizations: Other Organizations (N = 147)

	Level of engagement											
Type of engagement	No current relationship		Individual faculty engaged independently (no formal approach of the school or college)		Relationship is recognized in our school or program annual work plan or strategic plan		Specific contracts or agreements in place to provide services		Other		Don't know	
	Respondent		Respondent		Respondent		Respondent		Respondent		Respondent	
	n	%	n	%	n	%	n	%	n	%	n	%
Medicare (Federal program/agency)	14	9.5	62	42.2	10	6.8	15	10.2	17	11.6	43	29.3
Medicaid (Federal & State program)	11	7.5	62	42.2	11	7.5	17	11.6	0	0	41	27.9
Patient Centered Outcomes Research Institute (PCORI)	10	6.8	74	50.3	7	4.8	22	15.0	0	0	31	21.1
Agency for Healthcare Research and Quality (AHRQ)	9	6.1	73	49.7	10	6.8	17	11.6	0	0	33	22.4
National Institutes of Health (NIH)	5	3.4	88	59.9	28	19.0	39	26.5	0	0	12	8.2
Centers for Disease Control and Prevention (CDC)	4	2.7	91	61.9	21	14.3	33	22.4	0	0	11	7.5

(continued)

Table 12 (continued)

Descriptive Statistics for Type and Level of Engagement with External Organizations: Other Organizations (N = 147)

Type of engagement	Level of engagement: No current relationship		Individual faculty engaged independently (no formal approach of the school or college)		Relationship is recognized in our school or program annual work plan or strategic plan		Specific contracts or agreements in place to provide services		Other		Don't know	
	Respondent		Respondent		Respondent		Respondent		Respondent		Respondent	
	n	%	N	%	n	%	n	%	n	%	n	%
Health Resources and Services Administration (HRSA)	4	2.7	79	53.7	15	10.2	20	13.6	0	0	31	21.1
World Health Organization (WHO)	13	8.8	66	44.9	11	7.5	16	10.9	0	0	39	26.5
Indian/Tribal Health	19	12.9	49	33.3	9	6.1	8	5.4	0	0	52	35.4
Voluntary health agencies (e.g., lung, health, diabetes, cancer, arthritis)	7	4.8	76	51.7	13	8.8	14	9.5	0	0	32	21.8
Minority groups (e.g., race, disability, LGBTQ)	5	3.4	85	57.8	27	18.4	13	8.8	0	0	17	11.6
Faith-based organizations	7	4.8	75	51.0	10	6.8	6	4.1	0	0	36	24.5
Early childhood education centers	11	7.5	67	45.6	13	8.8	8	5.4	0	0	42	28.6

(continued)

Table 12 (continued)

Descriptive Statistics Engagement with External Organizations: Other Organizations (N = 147)

Type of engagement	No current relationship		Individual faculty engaged independently (no formal approach of the school or college)		Relationship is recognized in our school or program annual work plan or strategic plan		Specific contracts or agreements in place to provide services		Other		Don't know	
	Respondent		Respondent		Respondent		Respondent		Respondent		Respondent	
	n	%	N	%	n	%	n	%	n	%	n	%
Schools districts (K-12)	9	6.1	82	55.8	11	7.5	11	7.5	0	0	29	19.7
Post-secondary education, including trade schools	16	10.9	50	34.0	7	4.8	4	2.7	0	0	54	36.7
Chambers or other business groups	17	11.6	40	27.2	6	4.1	3	2.0	0	0	61	41.5
Businesses, private sector employees	15	10.2	59-	40.1	12	8.2	10	6.8	0	0	44	29.9
Community service organizations (e.g., United Way, YMCA, Urban League)	8	5.4	76	51.7	15	10.2	14	9.5	0	0	35	23.8
Foundations	7	4.8	84	57.1	20	13.6	24	16.3	1	0.7	20	13.6
Other organization	5	3.4	7	4.8	2	1.4	2	1.4	1	0.7	32	21.8

RQ2. Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs? Research question two was to explore correlations between participants health attitudes and their perception of academic-community engagement within their institutions. The only significant, albeit weak negative correlation was found between well-being and engagement in population health activity (- .18, p-value = .04).

Table 13

Spearman Rank-order Correlations between Health Attitudes and Academic-Community Engagement

Health Attitudes Correlate		Engagement Outcome					
		Engagement in population health activities	Engagement within parent institution	Engagement with health care system organizations	Engagement with local government agencies	Engagement with state agencies	Engagement with other organizations
Value of health interdependence	Correlation Coefficient	-0.09	0.12	0.24	0.08	0.23	0.14
	Sig. (2-tailed)	0.28	0.16	0.08	0.56	0.08	0.36
Value on well-being	Correlation Coefficient	-0.18*	0.03	0.15	-0.22	0.01	-0.07
	Sig. (2-tailed)	0.04	0.76	0.29	0.09	0.94	0.67
Emotional connection to community	Correlation Coefficient	0.03	0.05	0.15	0.04	-0.02	-0.05
	Sig. (2-tailed)	0.77	0.55	0.29	0.77	0.88	0.74
Community membership	Correlation Coefficient	0.06	-0.01	0.19	0.14	0.03	-0.03
	Sig. (2-tailed)	0.52	0.87	0.18	0.30	0.81	0.83

* Correlation is significant at the 0.05 level (2-tailed).

Interview Results

The following section summarizes the findings from the phone interviews. A total of eight participants, males (2) and females (6), were interviewed. Their academic roles included full professor tenured (5) and assistant professor non-tenured (3), with a length of time in their current role with their institution raging from more than a year and a half to up to ten-years. Participants were represented by four of the U.S. regions Midwest (3), West (3), Southeast (1), and the Northeast (1). Some of the participants were from the same school or college. A unique identification (ID) number was assigned to each participant, which begins with the numbers one through eight, followed by the letters M or F, to denote if the participant is male or female, a number from one through 28 representing each of the selected schools. Lastly, the last letter at the end of the ID represents the U.S. region. This unique ID will help us to identify similar responses coming from participants who belong to the same school or college.

RQ: 3 What is the knowledge and attitude of faculty about the health culture in SPHs? Two overreaching themes with several sub-themes emerged in the thematic analysis. The first theme, perceptions of health, included sub-themes such as overall health of faculty, access to health care and leadership's concern for health, the mental and physical health of faculty, and barriers and facilitators to a health culture. The second theme (2) perceptions around barriers and facilitators to a health culture included no deliberate effort to promote a health culture (6) and poor environment, and *s*upportive policies and deans, faculty, and students as health promoters. The themes are further discussed below.

The overall health of faculty, including access to health care, and leaderships' concern for health. When participants were asked about the faculty's health status, most of them (6 out of 8) believed that the faculty on their campus were mostly healthy. Factors such as being a public

health professional, engaging in physical activity, and living in a healthy county were associated with faculty's health. In terms of access to healthcare services, less than half of the participants (3) noted that although healthcare services were available among participants, sometimes access was a challenge. Participants were also asked to rate their leaders' concern for faculty's health, using a scale from (0 to 9), with one being "not at all" and nine been of great concern. The leader's concern for the faculty's health was rated as average, with an average score of five between all (8) participants. However, one participant stated that the leadership might not be as concerned about the health of the faculty because they assumed that the faculty are healthy; as she explained, "I do not think that they think that the health of faculty is an issue, I think that they assume that the faculty is healthy, and that the faculty has resources that they need."

Mental and physical health. Most of the participants (7 of 8) highlighted stressors that negatively impacted the faculty's mental health and well-being. The most common factors included the pressure of tenure (3 participants) related to research and job security, and budget cuts (2 participants), which affects faculty morale and salaries. For example, one participant noted how the tenure pressure affected her decision to have a child, as described by the following participant:

> I am 38 years old, and I got my Ph.D. when I was 25, and when I was 25, I thought, six or 7 years from now I will have tenure, and I can have a baby without worrying, been worried about been fired, but I didn't end up in a full-time tenured position until five years ago, and so now, I am at the end of a baby clock, thinking to myself would I ever be able to do this?

However, two participants also noted that campus focus on mental health awareness positively impacted the faculty's mental health. Few participants commented on aspects of the

faculty's physical health (3 participants) compared to mental health. Time was considered to negatively and positively affect physical health. One participant added that the faculty's role did not allow time to engage in leisure activities, while another noted that time was flexible enough to allow faculty to engage in health-promoting activities. Time was considered to negatively and positively affect physical health. One participant added that the faculty's role did not allow time to engage in leisure activities, while another noted that time was flexible enough to allow faculty to engage in health-promoting activities.

Barriers to a health culture. Most of the participants centered around two common themes that contributed to the barriers to a health culture, no deliberate effort to promote a health culture (6 participants) and poor environment (5 participants). Not having deliberate efforts focused on the health of faculty was, the lack of broad initiatives to promote health, and the notion that these institutions' focus is on teaching and research, were mentioned as barriers to health. For example, one participant described the lack of leadership support and focused on the health of the faculty:

> We're in a research institution where the focus is on teaching and research, and so that's where I see them providing more of the leadership in progression to this, health while it is important, I don't see necessarily them providing that level of leadership, but then again, I don't think they are the right people who need to be doing that.

A poor physical environment with no place to exercise on-site, restricted access to stairs, buildings without windows, and limited hours for the cafeteria on campus were claimed as barriers to promote promoting a health culture on campus. One participant noted her physical environment as a food desert area "we're kind of in a food desert, like we don't have access to a

lot of healthy foods, where we are, even that we are college… we have a cafeteria with very limited hours, and otherwise you have to you know to get in your car to go get it."

Facilitators to a health culture. Having *s*upportive policies and deans, faculty, and students as health promoters were mentioned as facilitators to a health culture amongst most participants (7 out of 8). Participants mentioned the need for supportive policies related to creating a supportive environment to promote health. Participants suggested that some of these policies should integrate a shared vision for health as a priority in the strategic planning of the school, having an institutional commitment to diversity and inclusion, not scheduling classes too late at night, and even to program the computers to remind people to engage in physical activity after a long period of sedentary behavior. However, one participant also noted that for these policies to work, they had to be implemented in a way that could change the current system:

> I think that policies are critical, but the implementation of those policies needs to be evaluated…you basically need to change the mental model of a health culture of health it's the social institution in higher education that it's really ready for the kind of transformation.

In addition to having supportive policies, participants also highlighted the need for deans and faculty to serve as role models inside and outside of their classrooms to create and promote healthy spaces, and to encourage work-life balance. Figure 3 provides a list of selected quotes for each of the presented themes.

Figure 3

Knowledge and Attitude About the Health Culture Themes and Selected Quotes

Theme	Subtheme and quote	Files
Perceptions of health		
Access to health care	**Available, but not always accessible:** "have well extensive and well health care coverage, actually health care" 5M_8N "we have access to healthcare but sometime is frustrated to get an appointment, just the way the scheduling works" 2F_1M	6
Leaderships concern for health	**Average** … I don't think that they think that the health of the faculty is an issue, I think that they assume that the faculty is healthy, and that the faculty has resources that they need to be responsible for their health 7F_20W	8
Mental health	**Negative** **Tenured:** "I am not in the tenure earning line, but I know of faculty who are that so I think the tenure earning place quite a lot of pressure on people because there is a clock that they are tied to, and they are expected to do quite a lot in that period of time" Budget cuts "We had some budget cuts and some other contextual issues in our university such that the morale is low, and people are stress" 2F_1M **Positive** **Focus on mental health;** "lot of folks in that program are focused on you know individual and family well-being or mental health or just sort of functioning you know that kind of sort of basic well-being, and their emphasis I think brings a similar kind of attention" 3F_20W	7
Physical health	**Negative and positive** **Repetitive and sedentary behaviour:** "this job that we are signed up for, for many, many years doing the same thing can lead to some of these physical conditions, and from doing a repetitive action" 1F_9SE **Time:** "it's really more the time. I think, I think people can manage the pressure or the expectations of the job if it were more contain in a reasonable amount of time for if it actually allowed for leisure" 3F_20W	3
Barriers and facilitators		
Barriers	**No deliberate efforts to promote health:** "I don't think that they are doing much deliberately, I think that when you're in school of public health or college or public health people make assumptions that oh we're college of public health so we are healthy, that's not necessarily true, so I don't think that there's enough done deliberate" 2F_1M	7
	Poor physical environment: "I've been speaking to some faculty who are in a building where they are in the basement where there is actually mold, and other things. So, their physical environment is horrible" 1F_9SE	5

Theme	Subtheme and quote	Files
	"there's no place to exercise on site, and you know, our cafeteria hours are limited. So I think in terms of kind of those basic things, physical health they are limited, I think that there is probably some mold, bathroom roaches" 2F_1M **Access to healthy foods:** "we're kind of in a food desert, like we don't have access to a lot of healthy foods, where we are, even that we are college… we have a cafeteria with very limited hours, and otherwise you have to you know get in your car to go get it" 2F_1M **Tenured and work expectations:** "I don't think, they are not assessing me on how healthy I am, you know they are assessing me on my research, my teaching, and on my service, and what I did. They don't really care if I am like immobile in a hospital, on a ventilator, but I still published all the articles that they wanted, and I got the grant, and I am supporting students, they are absolutely happy about it" 1F_9SE	
Facilitators	**Health promoters** **Students:** "I don't think that that necessarily comes from people that are always in leadership positions, I think that people who are leadership positions… I think that sometimes unfortunately it may come from a problem that's happened, sometimes the leaders can be the students, like hey you know there's no place to work out here, or we hungry, or you know I think that sometimes it can result from a problem, and I think that in terms of leadership" 2F_1M **Faculty:** "the faculty and staff, you know they are encouraging people to participate in these university wide things, and kind of department things who does x, y, and z. But, there's probably more focused on you know what we as a school or department chair can to support the health and mental health of students, you know make sure they're aware of resources" 4M_3M **Leadership:** "I think it's especially important for you know, health programs and health colleges to take leadership, visible leadership on that issue and you know, try to set an example for other programs across the university you know, because who else is more invested in health outcomes for people in the communities than we are, and yet, when you look at our own daily behavior, you don't really see a lot of those principles reflected" 3F_20W **Supportive policies** "there are policies where your computer after one hour and 30 minute of sedentary continuous work starts beeping where it tells you to get up off of your desk and like walk around for like five minutes, or something like that. Like that's a policy you can institute, and then you make everybody do it, then that can lead to people not to sit in the same place for so long, and it gives them some cardio" 1F_9SE "make some institutional, and strategic and process-based commitment to diversity and inclusion because that's a health issue" 2F_1M"I think that policies are critical, but the implementation of those policies needs to be evaluated…you basically need to change the mental model of a culture of health it's the social institution in higher education that it's really ready for the kind of transformation" 7F_20W **Shared vision for culture of health** "if the leaders share a vision culture of health, they would be instrumental for advancing a culture of health because they would reinforce that in a way that address inequities that negatively impact health" 7F_20W	8

Q4 What are the barriers and facilitators that impact academic-community engagement among faculty at SPHs? When participants were asked to describe academic-community collaborations; their responses were combined into different themes; fostering healthier communities and providing skills and expertise. Most of the participants (7) noted that these collaborations help foster healthier communities by generating additional resources, meeting the needs of the community, educating and informing local leaders, and working with local organizations on evaluation services. Also, promoting health, closing the workforce gap by providing students to work in the community, and training future leaders in those communities was also part of fostering healthier communities. For example, one participant added, "we can train our students best, that when they go out to work in these communities' organizations or industries, that we are training them to kind of what's cutting edge, or the community." Providing skills and expertise was essential to these collaborations. Participants saw the role of academic-community collaborations as a way to provide expertise in health interventions, evaluations and assessments, grant writing, policy advocacy, research, and service-learning. One participant explained how students get to apply their expertise and skills out in their communities, "we have interns, and other opportunities for students to engage in a variety of different ways and some other contracted services that mostly though emerges as part of a public health or MPH program."

Barriers to academic-community collaborations. Tenure and promotion and lack of resources were included as barriers to academic-community collaborations. Six participants noted that academic-community collaborations were not highly valued in the tenure and promotion process. Participants highlighted that the pressure on productivity, grant writing, and strict timelines linked to tenured promotion were barriers to engaging in such collaborations.

More than half of the participants (5) added that the lack of resources such as funding was also a challenge when engaging in academic-community collaborations. One participant described the challenges faced by the lack of resources, and how they affected both the researcher and the community partners:

> I think that's [resources] a huge challenge to build, maintain, sustain relationships in the funding environment that we have, and I think it's not necessarily constructive to build those relationships just within a funded project term. I think communities feel left out and abandon by that in a lot of cases.

Facilitators to academic-community collaborations. Participants (5) stated that when academic-community collaborations are valued and embedded in the campus's strategic planning or mission statement, they became an integral part of their work. One participant noted that such collaborations are the strength of his school, "in terms of strategic planning, it is part of the strategic planning… I know that it's a major component, it's a major strength of the school [referring to academic-community collaboration]. Some faculty (4) also believed that prioritizing these collaborations, engaging proudly with the community, and supportive leadership adds value to collaborations, making it easier for academic-community engagement. Figure 4 provides a list of selected quotes for each presented theme; a full table with detailed themes and quotes can be located under Appendix F.

Figure 4

Perceptions, Barriers, And Facilitators About Academic-Community Engagement

Theme	Subtheme and quote	Files
Academic-community engagement perceptions		
Healthier communities		7
	Resources: "I also think that they can also bring additional resources and funding to the region to address challenges and issues" 6F_18W **Address needs:** "I think they add value only when they actually work actively with the community, and they address community concerns" 1F_9SE **Education:** "provide information and some of the leadership about, you know not just in the research about you know what's a new virus and how it's spreading" 8F_3M **Providing services:** "by providing some evaluation and services that they would need; you know when they seek funding to add some credibility" 2F_1M **Healthier communities:** "Promoting health, this is, having healthy community or a community where the wellbeing is improved, it also that leads to a more aware, more socially responsible community" 5M_8M **Workforce:** "the public health workforce it's so understaffed, that any time that we extend our reach to community communities, that we are filling up a gap in those communities" 7F_20W "we can train our students best, that when they go out to work in these communities' organizations, or industries, that we are training them to kind of what's cutting edge, or the community" 2F_1M	
Skills & expertise	**Expertise:** "providing expertise to community groups were that'd be about the interventions or policy advocacy" 4M_3M **Grants:** "we work on a lot of grants; I help them write grants that are not necessarily my projects" 2F_1M **Research:** "have full-time faculty who I think typically do research to generate new knowledge and that knowledge gets disseminated to communities" 3F_20W **Service-learning:** "We have interns, and other opportunities for students to engage in a variety of different ways and some other contracted services that mostly though emerges as part of a public health or MPH program" 7F_20W	8
Barriers		8
	Tenured and promotion "I think it's the overall the promotion and tenured track thing to… I think those guidelines… if there's an assessment under the research that said, oh check if you had a publication with the community leader, or like check if you submitted grants with	

Theme	Subtheme and quote	Files
	community and leaders, and community organizations, like if you had something of that sort that it would force faculty to engage in those, but right now we're not necessarily assessed on those metrics" 1F_9SE "if you are a pre-tenured faculty, if you are in a tenured track… it can be maybe a little bit challenging to do community-based participatory research because you're going to have to really think about, really in the end, if you want to get tenure in a research institution, the big things are weather you are bringing in dollars, you know big dollars, and are you getting a lot of publications" 4M_3M **Lack of resources** **Funding:** Finical resources is a major challenge, especially it becomes really a problem for minorities or underserved communities which they tend to have limited resources, and probably health is not for them the first priority to those who manage the resources" 5M_8N "Honestly what I think is the biggest barrier, at least this is been my experience, as I have served as primary investigator on some very big public health federally funded projects, and I have been the academic partner on other projects where I specifically recommended that a community organizer should be the fiscal agent" 7F_20W "We are funded to do something for three years or five years, I think that's a huge challenge to build, maintain, sustain relationship in the funding environment that we have, and I think it's not necessarily constructive to build those relationships just within a funded project term, I think communities feel left out and abandon by that in a lot of cases" 3F_20W	
Facilitators		7
	Value on collaboration "so, I think, I think faculty as a whole, I think are, I think feel comfortable doing this, and feel that they are supported, particularly if you are tenured anyways, getting, doing this kind of collaborative research" 2M_3M "I think we appreciate the, or we are always looking for opportunities to engage, to actively participate" 5M_8N	
	Strategic planning or mission statement "I think ours is imbed in the strategic plan, and I believe in our mission, I would have to look up our mission, but our model or a tagline for our college is like "omitting tagline for confidentiality" and practice means being in the community doing your work" 1F_9SE "I do think that people believe that community partnerships are definitely of value" 2F_1M "people are you know proud to serve communities and community organizations in those ways when they can and proud to bring resources and bring programs … to organize people around certain issues and challenges, so I generally think it's very positive" 3F_20W	

Chapter Summary

Descriptive statistics and a Spearman rank-order correlation were used to explore faculty health attitudes, academic-community engagement, and relationships. Descriptive statistics showed that the majority of participants recognized that social and physical external factors influence health. More than a third of the participants believed that community investment around five different policies to improve health and well-being was a top priority. Less than eleven percent of participants had a strong emotional connection and membership to their community. Significant, weak negative correlation was found between well-being and engagement in population health activity. Additionally, most of the academic-community engagement was perceived to be happening at the individual level, whether that was providing expertise in community engagement, working in collaboration with the nursing departments, or engaging externally with organizations such as federally qualified health centers, policy/legislative agencies, and the Centers for Disease Control and Prevention.

Lastly, the interviews' analysis demonstrated that participants believe that academic-community collaborations positively impact the health of the community by helping to generate resources, address needs, and provide expertise and education to community members. Having strategic plans, supportive leadership, and funding was seen as facilitators to engaging in academic-community collaborations. In contrast, not having a tenure or promotional process that brings value to such work was seen as barriers. Furthermore, the results provide a glimpse of the current health culture in SPHs, faculty health attitudes, and perceptions around academic-community engagement.

The final chapter will explore the findings presented in chapter four and discuss the results within the literature review and theoretical application. Lastly, the chapter will also

examine public health and research implications and future research in academic-community collaborations

CHAPTER 5

DISCUSSION AND CONCLUSION

There is a body of evidence showing that schools and colleges of public health have a history of engaging in academic-community collaborative partnerships to address health disparities effectively, even when facing barriers and challenges to this work. However, little is known about the intra-organizational health attitudes of faculty in schools and colleges of public health and their impact on academic-community engagement. From an organization perspective, it is important to evaluate SPHs impact on health and their integration of health as a core value that is reflective of a health culture that can impact academic-community collaborations. To address this gap in the literature, the purpose of this mixed-method study was to assess academic-community engagement through an organizational lens by exploring the health attitudes and academic-community engagement of faculty at accredited schools and colleges of public health (SPHs). Primary data were collected from 147 participants from 21 schools and colleges of public health, and qualitative data from eight phone interviews. Demographics, health attitudes, and academic-community engagement were collected from an online survey. Insight on knowledge and attitudes about health and barriers and facilitators to a health culture and academic-community engagement were gathered from the phone interviews. Statistical analysis was conducted, including the use of descriptive statistics and Spearman rank order correlation analyses.

The present chapter provides a review of major study results, discussion of the theoretical application, study limitations, public health implications, future research, and conclusion.

Health Attitudes

The main health attitudes, value of health interdependence, value on well-being, emotional connection to the community, and community membership captured beliefs and perspectives that assessed whether individuals embraced health as a shared value. Embracing health as a shared value aligns with supporting actions that lead to a national culture of health. Other health attitudes measures assessed feelings about the community and perspective on the health of the community. Organizational culture is described as shareable assumed beliefs, values, and behavioral expectations created and shared with members (Schein, 2017). In this study, health attitudes are basic underlying assumptions that can explain the behavior faculty including their unconscious, taken-for-granted beliefs, perceptions, thoughts, and feelings (Schein, 2017).

RQ1. What is the health attitude of faculty at SPHs?

Value of health interdependence. Value of health interdependence was gained by asking participants to rate six items that affect people's health and well-being, such as options for healthy food and exercise, social support, community safety, where a person lives, and example by others. Accurately, these items assessed participants' views on social determinants of health and disparities. The mean for value of health interdependence was 4.4. Value of health interdependence assesses participant's recognition that external social and physical factors influence health, and 82.3% of the participants had a "strong or very strong" agreement with this value, as compared to the RWFJ Health Attitude study that found that close to 33.9% of adults had a "strong or very strong" agreement (Carman et al., 2016). Therefore, the present study found that a much higher percentage of participants had a "strong or very strong" agreement on recognizing that health is influence by external social and physical factors.

It was expected that the results would show "strong agreement," given that the population sampled were faculty and lectures in SPHs. Within the culture of public health, health disparities have been well documented, and efforts to addresses them have been developed. For example, Louis Israel Dublin 1928 called attention to racial health disparities in his famous writing, stating that "they [African Americans] are clear-cut racial groups, with very definite health problems that call for solution…health is basic to the general welfare of the Negro as it is to the other race" (Dublin, 1928). From his report to the 2010 *Patient Protection and Affordable Care Act (*U.S. Department of Health and Human Services [HHS], 2010), there has been an expansion in efforts and research (HHS, 2020) to tackle social factors that create these disparities. Moreover, at the organizational level, some public health institutions recognize the impact of external factors on health or the interdependence of health and are promoting a healthier campus culture among students and faculty (Levy, Gentry, & Klesges, 2015; Carter, Kelly, Alexander, & Holmes, 2011).

Value on well-being. Value on well-being evaluates participants' opinions and attitudes regarding community investment in well-being. Participants were asked to rate five different policy-related measures to improve health and well-being as a "top priority" or "not top priority." The mean value on well-being was (0.65) with 35.4% of respondents choosing all five policies as top priorities, as compared to 8.6% that indicated that all policies were top priorities from the RWJF study findings (Carman et al., 2016). These priorities were around possible policies that impact the social determinants of health. Since 2016, in public health, there has been a shift to working on upstream approaches to address the root causes that exacerbate poor health outcomes (Krisberg, 2016), with a promising focus on activities that integrate "health in all policies" at the local and state level (Gase, Pennotti, & Smith, 2013).

Additionally, a national survey of the public health workforce demonstrated that more than 70 percent of the participants believed that influencing policy development and understanding the relationship between policy and health was “somewhat important” or “very important” (Sellers, 2015). The differences in the score could mean that the participants of this study are more aware of the influence policies can have on addressing health disparities, as compared to the general population. As organizations, SPHs have played a vital role in promoting policy changes in tobacco use (Hackbarth et al., 2001) and environmental health issues (Minkler, Vásquez, & Shepard, 2006). Moreover, public health research contributions to policy development have proven possible when researchers realize and conceptualize their work's implication onto these policies, rather than seen it as an add-on beyond what they already do (Ottoson, Ramirez, Green, & Gallion, 2013). Within the organization's culture, Quelch and Boudreau (2016) suggest that this realization or acknowledgment of health's impact can lead to an organization's integration of health as a core value.

Emotional connection to the community. The mean score for the emotional connection to the community was 1.18, and 10.9% of the participants had a strong emotional connection to the community. The RWJF findings suggest that 15% of the participants had a strong emotional connection to their community (Carman et al., 2016). The present study findings were lower than what RWJF concluded. The fact that faculty tend to move based on their job, and perhaps they do not live a long time in their communities to feel a strong emotional connection, could explain this difference. Faculty in higher education recognize that the job expectations around assistant professorship include moving where the jobs are (Syder-hall, 2015). However, higher education faculty feel more emotionally connected to their local communities; they strive to interrelate their regular lives with their scholarly work, promoting civically engaged campuses

(Mathews, 2010). Moreover, from an organizational perspective, a study among higher education faculty found that having a sense of community at work had a significant positive effect on organizational commitment (Bell-Ellis, Jones, Neal, 2015).

Community membership. The mean score for the community membership was 1.40, with 19.7% of participants having a strong community membership compared to 8% of RWJF findings reporting a strong sense of community membership. Although community membership refers to the interconnection with others in the community, it also relates to individuals' social support and social networks (Tan et al., 2019). The research on community membership among faculty on this construct (external, nonacademic community membership) is nonexistent, yet research has evaluated the sense of community membership in higher education. For example, research has focused on studying faculty organizational membership (Pelletier, Kottke, & Reza, 2015), sense of institutional membership (Rees & Shaw, 2014), sense of belonging (Holmes & Kozlowsk, 2014), and differences in the sense of belonging between full-time and part-time faculty (Merriman, 2010). However, further research is needed that focuses on the faculty's sense of community members in their neighborhoods.

Feelings about the community. Four different questions encompassed feelings about the community. First, (41.5%) mostly agreed that the community could work together to improve its health, compared to (24.6%) that mostly agreed with that statement based on the RWJF's findings (Carman et al., 2016). The majority (40.1%) of the participants mostly agreed that their communities have resources to improve health, whereas the RWJF the findings demonstrated that 28.3% mostly agreed (Carman et al., 2016). With regards to neighbors helping to stay healthy, most of the participants (40.8%) somewhat agreed that their neighbors would help them stay healthy, compared to 31.0% from the RWJF's findings that somewhat agreed that their

neighbors would help them stay healthy. Lastly, 32.0% of participants mostly agreed that that the community could work together to make positive changes for health. RWJF's findings were a slightly higher percentage of participants who mostly agreed (35.1%) that their community could work together to make positive changes to improve health. A larger percentage of participants from the present study had more positive feelings about their perceptions that their community can work together to improve health. They also thought that communities had the resources to do so. It also somewhat agreed more that neighbors would help them stay healthy.

No research has specifically explored faculty feelings about their communities within the context of the health attitudes survey. However, it is worth mentioning that compared to the general population, faculty of at SPHs are exposed to the theoretical teaching and approaches that suggest that communities can work together to improve health. Further, SPHs might even engage in their communities to create change, which is evident in academic-community collaborations at the individual level (Caron, 2015). Lastly, perhaps faculty training allows them to look at their communities from an asset-based approach that lets them see their communities' potential and resources to improve health (Gelmon, Ryan, Blanchard, & Seifer, 2012).

Perspective on health of the community. Most participants (61.9%) rated the overall health of the communities that they live as "healthy," this was greater than the 45.8% of respondents from the RWJF finding (Carman et al., 2016). Also, most participants (68.0%) believed that it would not be easy if people in the community worked together, but it would be possible to make it a healthier place to live. Similarly, RWJF found that most of their participants (57.5%) believed that it would not be easy if people in the community work together, but it would be possible to make it a healthier place (Carman et al., 2016). Most participants (40.8%) "somewhat" agreed that getting involved "can't make a difference" on the health in their

community, compared to 22.8% that "somewhat" disagreed with the statement from the RWJF study (Carman et al., 2016). Therefore, the perception that getting involved makes a difference in the community's health was stronger for the present study population. Overall, perceptions of living in a healthy community were higher for the present study, recognizing that it is not easy for people to work together. Participants also believed that it was possible to make a difference when people work together, and more agreed that getting involved does make a difference.

Academic-community Engagement

Academic-community engagement reflects participants' perception about their school or college engagement on population health activities and population health issues with various sectors and different engagement levels. RQ2 is twofold, it evaluates SPHs participation in academic-community engagement and engagement levels, and it also explores relationships between health attitudes and academic-community engagement.

RQ2. Is there a relationship between health attitudes and academic-community engagement among faculty at SPHs?

Engagement in population health activities. Most participants (53.7%) perceived that their school or college was mostly engaging in "providing expertise in community engagement," at the individual faculty level independently (no formal approach of the school or college). Similarly, ASPPH found that "providing expertise in community engagement" was the activity with the highest involvement across all levels of engagement (ASPPH, 2018). The Council on Education for Public Health, the accrediting body for schools and colleges of public health, emphasizes collaborations with community partners (2018a). These public health institutions are essential in promoting and protecting communities' health (APHA, 2019). Thus, the perception that schools and colleges of public health engage in population health activities to provide their

expertise in community engagement aligns with the commitment of schools and colleges of public health to engage with the community to provide a rich service-learning platform for students (Morgan & Streb, 2001).

Engagement within the parent institution. More than fifty percent of the working relationships within the institution was with "school of nursing" (53.1%) and with "medical school" (52.4%). Both of these working relationships were highest at the individual faculty level. Medical and nursing schools were among the top three most common working relationships within the parent institutions at the individual level (ASPPH, 2018). These results indicate SPHs with a medical school within their campus have an easier access to the local community and they can work on research or develop projects to benefit the medical school patients. However, other SPHs without a medical school to collaborate with, must go out into the community to find partners, and this takes time which is a barrier for academic-community collaborations (Caron et al., 2015). Lastly, SPHs with hard money positions are expected to have the time to engage with the community, and to build the trust necessary to develop those partnerships. These issues essentially highlight for institutionalizing academic-community engagement.

Engagement with health care system organizations (HCSO). Externally, most of the engagement with HCSOs was also at the individual faculty level, equally engaging with both "hospitals" (51.7%) and "federally qualified health centers, community health centers, rural health clinics or free clinics" (51.7%). Similarly, ASPPH found that the most common working relationships with HCSOs involved "hospitals," followed by "medical groups," and "federally qualified health centers" at the individual level (ASPPH, 2018). Drahota et al. (2016) also found that non-university hospitals were frequently engaging in academic-community partnerships. These partnerships may be influenced by the fact that as of 2013, non-profit hospitals were

required to conduct community health needs assessments (Department of the Treasury, 2014), and the need to engage in collaborative work to transform the current healthcare system to a system that focuses on lowering health care expenditure while improving health outcomes (Prybil et al., 2014).

Engagement with local (municipal, city or county) government agencies. Locally, most of the engagement was with "policy/legislative" entities (59.9%) and "housing/community development" (50.3%) at the individual level. In contrast, ASPPH found that engagement with "public health agency" was the most common type of relationship, and "policy/legislative" entities were ranked in fifth place, out of seven options, and engagement was higher when specific agreements or contracts were in place (ASPPH, 2018).

Engagement with state government agencies. At the state level, engagement was also with "policy/legislative" agencies (53.1%), closely followed by "public health departments" (50.3%), mostly at the individual faculty level. ASPPH (2018) found that the "public health department" was the top agency schools were engaging with the most when agreements and contracts were in place, and "policy/legislative" were among the least selected option with the highest agreements and contracts (ASPPH, 2018). These partnerships can serve to educate health future health professionals in more active roles that influence policy on social determinants that impact population health (National Academies of Sciences, Engineering, and Medicine, 2016).

Engagement with other organizations. Engagement with other organizations was mostly with the "Centers for Disease Control and Prevention (CDC)" (61.9%) and the "National Institutes of Health (NHI)" (59.9%). The present study findings were slightly different from ASPPH (2018) findings, which listed "NHI," "foundations," and "CDC," as the most common "other" organizations engaged in working relationships with the schools, under specific contracts

or agreements. Typically, these organizations are grant funding organizations. Therefore, engaging in working relationships with organizations such as the CDC and NIH is reflected in such institutions' funding needs. The world of academic research is often guided by and depended on available funding (Drahota et al., 2016). In the past, funding was a factor that limited or deterred faculty involvement in community-driven projects (Rogge & Rocha, 2004). However, academic-community collaborations might increase because many federal and private grants are requiring interdisciplinary approaches for public health research or projects (National Institutes of Health, 2017; Robert Wood Johnson Foundation, 2018; U.S Department of Health and Human Services, 2018).

Relationship between health attitudes and academic-community engagement. The present study found a weak negative relationship between the value on well-being and engagement in population health activities. Value on well-being assessed community investment in policy measures to improve well-being. The results indicate that as the number polices that are seeing as top priority increases, participants responses on **t**heir SPHs current engagement in specific population health actives such as strategic planning and facilitation with external entities, convening cross-sectoral partners, and providing expertise in community engagement, and other decreased. This could indicate that participants that value health policies that impact the community, also believe that their SPHs does not engage as much in population heath activities. Hence, given that the participants were faculty at schools and colleges of public health, and their work of these institutions is essential to promote health, creating a culture of engagement within the institution will also impact faculty perception about how engaged their SPHs are. Future research in this area should evaluate the relationship between value on well-being and faculty actual involvement in academic-community collaborations or partnerships.

Attitudes and academic-community engagement

An in-depth understanding of health, knowledge, and attitudes about a culture of health, academic-community engagement, and barriers and facilitators to academic-community engagement was gathered from the phone interviews. RQ3 and RQ4 assess perceptions, knowledge, and attitudes among faculty at SPHs through an interview process.

RQ: 3 What is the knowledge and attitude of faculty about the health culture in SPHs? The themes that emerged from the eight faculty that were interviewed around the health culture in SPHs included the perceptions that faculty were healthy (6 participants), leaders' concern for the health of faculty was rated average (8 participants). In contrast, the pressure of tenure (3 participants), and budget cuts (2 participants), were seen as stressors that affected mental health. These findings are similar to previous literature that highlighted that stress and adverse mental health were associated with not having a tenure-track position (Reevy & Deason 2014; Saccaro, 2014) or the tenure and promotion process (Mountz, 2016; Potter, 2020). According to Stevens (2000), tenure and promotion are part of the academic institution's organizational culture.

Additionally, participants (6) noted that barriers to a health culture in SPHs included not having deliberate efforts promoting a health culture on campus and having a poor physical environment (5 participants). Lastly, having supportive policies, deans, faculty, and students facilitated promoting a health culture (7 participants). As described previously, culture embraces the norms and expectations of how people should behave and how things should be done within the organization (Glisson & James, 2002), and in academia, culture is considered integrated when individuals share a collective and a unified perspective (Martin, 1992; Smerek, 2010). Hence, the lack of deliberate efforts, supportive environment, and supportive leadership

that promotes a health culture within these institutions can be seen as disintegrated health cultures in SPHs. Moreover, RWJF points out that people are more likely to support a national culture of health when they embraced making health a shared value. Therefore, an integrated culture of health in SPHs will be supportive of moving towards building a national culture of health, as more institutions take more deliberate efforts and support towards promoting a health culture within their campuses.

RQ4. What are the barriers and facilitators that impact academic-community engagement among faculty at SPHs? The thematic analysis of the interviews revealed that participants viewed academic-community collaborations as positively impacting communities' health. Engagement in the community was viewed as fostering healthier communities by generating resources, addressing community needs, providing expertise, education, and training future health professionals. Studies have demonstrated that such collaborations foster healthier communities (Mendenhall et al., 2010; Brugge, Rivera-Carrasco, Zotter, & Leung, 2010) as well as more community and civically-minded public health workforce (Ceraso, Swain, Vergeront, Oliver, & Remington, 2014; Morgan & Streb, 2001). In light of the need to address health disparities, there has been an increased interest in funding collaborative work to create healthier communities. For example, the RWJF, the California Endowment, and Kaiser Permanente understand these collaborations' positive impact and have committed efforts and funding to promote cross-sectoral coalitions to build healthier communities (Elias, Moore, & Network, 2017). Communities are also inclined to engage in collaborative work with academia, as they see it as a great asset to strengthening their resources and increasing capacity building (Yuan, Gaines, Jones, Rodriguez, Hamilton, & Kinnish, 2016)

Moreover, barriers to academic-community engagement included the belief that this type of work was not valued enough during the tenured and promotion process, and the stress that came with that process did not allow them to engage in such collaborations. The lack of funding allocated to academic-community engagement was another barrier. Strategic planning or mission statements that emphasize and prioritize academic-community collaborations and supportive leadership were essential to facilitating academic-community engagement. Similar to the study finding, multiple studies suggest that supportive institutional structures such as promotion/tenure, faculty capacity around community engagement, supportive leaders, and funding have been identified as facilitators to community engagement (Eder, Carter-Edwards, Hurd, Rumala, & Wallerstein, 2013; Dodds et al., 2003; Blanchard, Strauss, & Webb, 2012; Hamel-Lambert, Millesen, Harter, & Slovak, 2012; Seifer, Blanchard, Jordan, Gelmon, & McGinley, 2012).

Application to Theoretical Framework

The present study explored faculty's health attitudes precisely: value of health interdependence, value on well-being, emotional connection to the community, and community membership (*basic underlying assumptions*), and their relationship to perceptions of campus academic-community engagement (*artifacts*). The study findings revealed a weak a negative relationship between well-being and engagement in population health activities. Additionally, according to RWJF's Culture of Health Model, stronger health attitudes indicate stronger support for "making health a shared value." Hence, findings on health attitudes indicate SPHs support at the institutional level for *making health a shared value*. Lastly, although not included on the theoretical model, the themes from the interviews demonstrated that institutional structures such as a supportive environment, and philosophies like the tenure process, which

can be classified as *espoused values and beliefs*, were part of participant's perceptions and thoughts (*basic underlying assumptions*) barriers and facilitators to promoting a health culture and academic-community engagement in SPHs.

The study demonstrates the application of Schein's Organizational Culture model's usefulness to explore health attitudes and academic-community engagement and the relationship between the two. This study was the first one to explore SPHs faculty health attitudes using RWJF's Health Attitudes Survey, and findings showed had a larger percentage of the participants had "strong or very strong" value of health interdependence. Their value on well-being considered more policies that impacted the social determinants as "top priorities," and reported a "strong" sense of community membership compared to the population studied by RWJF. The study also shines a light on SPHs support for "making health a shared value," which is one of the areas of RWJF Culture of Health Framework to move forward on creating a "national culture of health."

The study identified common barriers and challenges at the organizational level to build a health culture within schools and colleges of public health. Additionally, the in-depth analysis of this issue will pave the way for schools and colleges of public health to engage in their own organizational analysis of their health impact and structural policies.

Limitations of the Study

This study has several limitations. First, the study had a modest sample size (N=147**).** To increase sample size, 10 additional SPHs were randomly selected from the original 11 SPHs, for a grant total of 21 SPHs. Constant email reminders for participants to complete the survey were also programed in Qualtrics to increase participation rate. Given a relatively low response rate, the final analyses were performed without adjustment for survey design and non-

response. Hence, the study findings are not generalizable to all public health faculty and lectures in the U.S.

Secondly, self-reporting surveys may contribute to information bias. Faculty in SPHs might be biased when asked about their health attitudes and organizational culture. The online survey was anonymous, not linked to any identifying information, and participants were free to select which questions to answer, therefore, encouraging true reporting. Also, given that the study did not adjust for sample design and non-response in the analysis, the findings cannot be generalized to the original study population, faculty at SPHs. Lastly, although no casual inferences can be made health attitudes and organizational culture or health attitudes and academic-community engagement, a cross-sectional study design using both quantitative and qualitative data helped to strengthen the study design. The study collected baseline data for future explanatory research allowing to test hypotheses.

Regardless of these limitations, the present study is unique in many ways. The present study is the first research study that used RWJF's Health Attitudes Survey of faculty at accredited SPHs. This study is also the first study to incorporate health attitudes within an organizational culture model to evaluate the relationship between the organizational culture levels. Lastly, this study is the first study to report a significant relationship between health attitudes and academic-community engagement. Though this provided invaluable insight into the health attitudes and academic-community engagement of faculty at accredited schools and colleges of public health the study was not without its limitations

Public Health Implication

The purpose of this mixed-method study was to assess academic-community engagement through an organizational lens by exploring the health attitudes and academic-community

engagement of faculty at accredited schools and colleges of public health (SPHs). Given the limited research on this topic, the study findings provide insight into the health culture of SPHs and understanding of the role of health attitudes and academic-community engagement. To foster a health culture, SPHs must acknowledge their impact on health and integrate health as a core value (Quelch & Boudreau, 2016), not only within the institutions but also outside their communities. Organizational values and orientations are influenced by the culture and ideology established within the institution (Alvesson, 2002); similarly, culture and ideology can also influence the practices and behaviors (Eddy, 2005). Health attitudes are underlying beliefs that impact the culture of the organization. Strong health attitudes are indicative of embracing health as a shared value (RWJF, 2019). Thus, evaluating faculty health attitudes provides an opportunity for SPHs to assess these underlying beliefs and engage in organizational changes that would positively promote strong health attitudes that impact health culture and academic-community engagement.

Additionally, SPHs can foster a health culture by addressing structural, organizational factors influencing faculty attitudes such as supportive leadership, a healthy environment, deliberate policies, and actions to health promotion and academic-community engagement. For example, in this study, a low percentage of participants reported a strong sense of community, including an emotional connection to the community and community memberships. Hence, their SPHs can further explore ways to increase a sense of community and membership among faculty. Doing so will improve viewing health as a shared value and engagement in more active and deliberate efforts to create a health culture within the institution. A health culture in SPHs can have a tremendous impact on the faculty, students, staff, and the community. The organizational culture and members of that culture influence each other. Therefore, a supportive,

healthy environment that promotes health in all policies can help SPHs integrate health as a core value and lead to a transformational culture of practice and academic-community engagement.

Moreover, research, teaching, and service can be translated and applied to solve local health disparities through academic-community collaborations; yet this work was not prioritized or strategically embedded in the work carried out by SPHs (Potter et al., 2009). The study results demonstrated that most of the academic-community engagement was at the individual faculty level, rather than formal institutionalized processes such as the annual plan or strategic plan, or specific contracts and agreements to provide services externally. Findings also resonate with previous studies that have identified a lack of financial resources, time, and the need for specific infrastructure changes to promote academic-community partnerships. Academic community engagement is influenced by the institution (Stevens, 2000), and because strong and supportive organizational cultures lead to healthier communities (PHAC, 2014; Raphael et al., 2014), creating a health culture supportive and inclusive of academic-community engagement will influence a culture of practice and engagement. The significant relationship found between some health attitudes and academic-community engagement supports the interaction of the different levels of organizational culture and the importance of exploring the impact of beliefs on engagement.

SPHs academic-community collaborations also impact students' learning. This collaborative engagement is a teaching approach that can cultivate a civically engaged public health workforce, students (Morgan & Streb, 2001), with a more in-depth perspective and understanding of local health disparities (Buckner, Ndjakani, Banks, & Blumenthal, 2010), and with the necessary skills need it to apply solutions to real public health issues (Sabo et al., 2015). Stevens argues that practice, including academic-community partnerships, is driven by the

corporate culture of SPHs (Stevens, 2000); therefore, strong and supportive organizational cultures lead to healthier communities (PHAC, 2014; Raphael et al., 2014). Studies that build on previous work evaluating organizational barriers and facilitators to such work would prove highly applicable translation of this knowledge into applied research. Consequently, SPHs that make health a core value will improve their campus and communities' health, which can also pave the way to move towards a national culture of health working collaboratively across different sectors.

Conclusion

The present study is the first to assess academic-community engagement through an organizational perspective by exploring the health attitudes and academic-community engagement of faculty of accredited schools and public health colleges. SPHs are organizations with unique cultures, and as such, they can directly impact their employees' health, the people they serve, their surroundings, and the environment. Although these institutions' culture can be complicated, understanding the factors that can potentially influence the health culture is imperative. The study provides an in-depth analysis of the faculty's underlying beliefs as members of SPHs and its impact on academic-community engagement. Thus, evaluating faculty health attitudes provides an opportunity for SPHs to assess these underlying beliefs and engage in organizational changes that would positively promote health attitudes to impact health culture and academic-community engagement. Therefore, taking deliberate actions to foster a health culture that supports the faculty's health, positively impacts their beliefs, and facilitates academic-community engagement will influence a culture of practice and engagement to end health disparities.

Future research should include an extension of the present study to examine the relationship between health attitudes (basic underlying assumptions) and the other two levels of culture social-demographic variables (artifacts), and questions regarding community engagement, service-learning, job function time distribution, and funding sources for salary (*exposed values and beliefs*). Future research could also evaluate differences between levels of academic-community engagement.

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APPENDIX A

IRB Approval

Georgia Southern University
Office of Research Services & Sponsored Programs

Institutional Review Board (IRB)

Phone: 912-478-5465
Fax: 912-478-0719
IRB@GeorgiaSouthern.edu
Veazey Hall 3000
PO Box 8005
Statesboro, GA 30460

To: Olivas, Maria Isabel
Walker, Ashley

From: Office of Research Services and Sponsored Programs

Date: 10/4/2019

Initial Approval Date: 5/3/2019

Subject: Status of Research Study Modification Request – Amendment # 1
Exempt Review

After a review of your Research Study Modification Request on research project numbered **H19438,** and titled **"Exploring Health Attitudes and Academic-Community Engagement of Faculty at Accredited Schools and Colleges of Public Health,"** it appears that your research modification does not change the conditions of your previous exemption. The research involves activities that do not require approval by the Institutional Review Board according to federal guidelines.

Modification Description: A brief paragraph was added to the consent form to add to the purpose of the study.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that your research is exempt from IRB approval. You may proceed with the proposed research.

Sincerely,

Ele Haynes (ss)

Eleanor Haynes
Compliance Officer

APPENDIX B

SURVEY WITH CONSENT AND FOLLOW SEMI-INTERVIEW SURVEY

English

SURVEY INSTRUCTION

Informed Consent

JIANN-PING HSU COLLEGE OF PUBLIC HEALTH
DEPARTMENT OF COMMUNITY HEALTH BEHAVIOR AND EDUCATION

INFORMED CONSENT

Study Title: Exploring health attitudes and academic-community engagement of faculty at accredited schools and colleges of public health

Study Investigator: Maria I. Olivas Dr.PH (c), MPH, ATC- Principle Investigator
Doctorate of Public Health Student
Department of Community Health Behavior & Education
Jiann-Ping Hsu college of Public Health

Purpose of the Study: We are interested in understanding the health attitudes of faculty at accredited schools and colleges of public health and their level of academic-community engagement. Participants will be presented with information relevant to health and academic-community engagement and will be asked to answer some questions about it. In return we hope for the findings of the study to provide a baseline measure of the culture of health among faculty in schools and colleges of public health and its impact on academic-community engagement.

Procedures to be Followed: Participation in this research will include the completion of 10-15 minutes online survey. The survey consist of 18 items and will ask you questions about: demographics, health attitudes, and academic-community engagement. You name or any other identifying information will not be linked to the survey.

Discomforts and Risks: No potential risks or discomfort to you are foreseen in the study; however, some of the questions may ask you sensitive information about your health attitudes. Your participation in this research is voluntary and you have the right to withdraw at any point during the study, for any reason, and without any prejudice.

Benefits: Your participation will contribute to a better understanding of the impact of health attitudes on academic-community engagement, and to highlight barriers and challenges for engagement and for a supportive health culture within Schools and colleges of public health . Also, the in-depth analysis of this issue will pave the way for schools of public health and colleges to engage in organizational analysis of their own impact on health and engagement.

Statement of Confidentiality: Your survey answers will not be shared in a way that would identify you. All information collected in this study will be presented as the whole group of participants rather than by each individual person. Since you will not be asked to provide your name your confidentiality as a participant will remain secure. All the information will be stored on a password-protected server, and only the research team will be able to open the computer files. The data collected will be maintained for seven (7) years from completion of the study, per the Georgia Board of Regents retention policy. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

Right to Ask Questions: Participants have the right to ask questions and have those questions answered. If you have questions about this study, please contact the Principal Investigator Maria I. Olivas at mo01736@georgiasouthern.edu., or by phone at (949) 648-0985. For questions concerning your rights as a research participant, contact Georgia Southern University Office of Research Services, 912-478-5465.

**Voluntary Participation: Your participation in the study is completely voluntary. You may skip any questions
that you do not want to answer. If you decide to stop participating, you are free to withdraw at any time, by exiting the survey.**

Consent: by clicking the button below, you acknowledge that your participation in the study is voluntary. That you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please fee free to print this consent form for your records.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

- ◯ I consent, begin the study
- ◯ I do not consent, I do not wish to participate

What is your current academic status?

- ◯ Faculty
- ◯ Lecture
- ◯ Other

Are you a tenured professor?

- ◯ Yes
- ◯ No

Are you on a tenured track?

- ◯ Yes
- ◯ No

What is your academic concentration? Check all that apply.

- ☐ Community Health
- ☐ Health Promotion
- ☐ Health Science
- ☐ Behavioral Science
- ☐ Social and Behavioral Science
- ☐ Environmental Science
- ☐ Epidemiology
- ☐ Biostatistics
- ☐ Health Management
- ☐ Health Policy

- [ ] Population Health
- [ ] Global Health
- [ ] Other

How far do you live from your school or college?

- ◯ < than 3 mile
- ◯ 3 to 6 miles
- ◯ 6 to 9 miles
- ◯ 9 to 12 miles
- ◯ > than 12

What is your gender?

- ◯ Male
- ◯ Female
- ◯ Other (specify)

Are you White, Black or African-America, American Indian or Alaskan Native, Asian, Native Hawaiian or other Pacific Islander, or some other race?

- ◯ White
- ◯ Black or African American
- ◯ American Indian or Alaska Native
- ◯ Asian
- ◯ Native Hawaiian or Pacific Islander
- ◯ Form multiple races
- ◯ Other (please specify)

Are you Mexican, Mexican-American, Chicano, Puerto Rican, Cuban, Cuban-American, or some other Spanish, Hispanic, or Latino group?

- ◯ I am not Spanish, Hispanic, or Latino
- ◯ Mexican
- ◯ Mexican-American
- ◯ Chicano
- ◯ Puerto Rican
- ◯ Cuban
- ◯ Cuban-American

Some other Spanish, Hispanic, or Latino group

From multiple Spanish, Hispanic, or Latino groups

Here is a list of some things that affect people's health and well-being. Please rate each on a scale from 1 to 5 where 1 means it has no effect on health and 5 means it has a very strong affect.

	(No Effect)	2	3	4	(Very Strong Effect)
B. Neighborhood Options for Healthy Food and Exercise	○	○	○	○	○
C. Amount of Social Support	○	○	○	○	○
D. Physical Environment Such as Clean Air and Water	○	○	○	○	○
E. Community Safety	○	○	○	○	○
F. Where a Person Lives	○	○	○	○	○
G. Examples Set by People Around You	○	○	○	○	○

In the following section, we list goals that some people think are important for communities in U.S. For each, indicate whether you think it should be a top priority, important but not a top priority, or not a priority at all for communities. In these statements, when we refer to "communities," we mean all communities not just your own.

Should the following be a top priority, important but not a top priority, or not a priority at all for communities?

	Top Priority	Important but Not Top	Not a Priority at All
1.Making sure that the disadvantaged have an equal opportunity to be healthy	○	○	○
2. Making sure that healthy foods are for sale at affordable prices in communities where they are not	○	○	○
3. Making sure that there are safe, outdoor places to walk and be physically active in communities where there aren't any	○	○	○
4. Making sure that there is decent housing available for everyone who needs it	○	○	○
5. Making sure that there are bike lanes, sidewalks for walking and public transportation available so that people do not have to always rely on cars	○	○	○

Overall, would you say that you live in an unhealthy community, a healthy community, or one that is somewhere in between?

Unhealthy

Healthy

In-Between

The following statements about community refer to your neighborhood. How well do each of the following statements represent how you feel about this community? Not at all, somewhat, mostly, or completely.

	Not at All	Somewhat	Mostly	Completely
A. I can Trust People in This Community	○	○	○	○
B. I Can Recognize Most of the Members of This Community	○	○	○	○
C. Most Community Members Know Me	○	○	○	○
D. This Community Has Symbols and Expressions of Membership Such as Clothes, Signs, Art, Architecture, Logos, Landmarks, and Flags That People Can Recognize	○	○	○	○
E. I Put a Lot of Time and Effort into Being Part of This Community	○	○	○	○
F. Being a Member of This Community Is Part of My Identity	○	○	○	○
G. It Is Very Important to Me to Be a Part of This Community	○	○	○	○
H. I Am with Other Community Members a Lot and Enjoy Being with Them	○	○	○	○
I. I Expect to Be Part of this Community for a Long Time	○	○	○	○
J. Members of This Community Have Shared Important Events Together, Such as Holidays, Celebrations, or Disasters	○	○	○	○
K. I feel Hopeful About the Future of This Community	○	○	○	○
L. Members of this Community Care About Each Other	○	○	○	○
M. My Community Can Work Together to Improve Its health	○	○	○	○
N. My Community Has Resources to Improve Its Health	○	○	○	○

Continues from previous

	Not at All	Somewhat	Mostly	Completely
O. My Community Works Together to Make Positive Changes for Health	○	○	○	○
P. I know My Neighbors Will Help Me Stay Healthy	○	○	○	○

Which of these statements do you agree with most?

- ○ If People in the Community Worked Together It Would Be Easy to Make It A Healthier Place to Live
- ○ If People in the Community Worked Together It Would Not Be Easy, but It Would Be Possible to Make it a Healthier Place to Live
- ○ Even If People in the Community Worked Together, It Would Be Impossible to Make It a Healthier Place to Live

Please indicate how much you agree or disagree with the following statement:

	Strongly Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Strongly Agree
I think even if I get involved, I really can't make a difference on behalf of health in my community.	○	○	○	○	○

Looking beyond curricula, please indicate the population health activities in which your school or college is currently engaged by selecting the options(s) that describe the type of level of engagement

	Individual faculty engaged independently (no formal approach of the schools or college)	Included in our school or college annual work plan or strategic plan	Specific contracts or agreements in place to provide these services to external groups	Other (describe in comment box below)	None (not involved in this activity)
A. Strategic planning and facilitation with external entities	☐	☐	☐	☐	☐
B. Convening cross-sectoral partners	☐	☐	☐	☐	☐
C. Providing expertise in community engagement	☐	☐	☐	☐	☐
Other (describe in comment box below)	☐	☐	☐	☐	☐

If the "Other" category is selected in the column or rows above, please describe.

For each group, please select the option(s) that describe(s) your school or college's current working relationships on population health issues with groups within your parent institution. Check all that apply.

	No current relationship	Individual faculty engaged independently (no formal approach of the schools or college)	Relationship is recognized in our school or program annual work plan or strategic plan	Specific contracts or agreements in place to provide services	Other (describe in comment box below)	Don't know Not applicable
A. Medical School	☐	☐	☐	☐	☐	☐
B. School of Pharmacy	☐	☐	☐	☐	☐	☐
C. School of Nursing	☐	☐	☐	☐	☐	☐
D. School of Dentistry	☐	☐	☐	☐	☐	☐
E. Teaching hospital affiliated with your parent institution	☐	☐	☐	☐	☐	☐
F. Other clinical partners affiliated with your parent institution	☐	☐	☐	☐	☐	☐
G. Business management and/or law schools	☐	☐	☐	☐	☐	☐
H. Other (describe in common box)	☐	☐	☐	☐	☐	☐

If the "Other" category is selected in the column or rows above, please describe.

For each organization, please select the option(s) that describe(s) your school or college's current working relationships on population health issues with the type of external organizations listed below. Check all that apply.

Health Care System Organizations

	No current relationship	Individual faculty engaged independently (no formal approach of the schools or college)	Relationship is recognized in our school or program annual work plan or strategic plan	Specific contracts or agreements in place to provide services	Other (describe in comment box below)	Don't know
1. Hospitals	☐	☐	☐	☐	☐	☐
2. Medical groups	☐	☐	☐	☐	☐	☐
3. Federally qualified health centers, community health centers, rural health clinics or free clinics	☐	☐	☐	☐	☐	☐
4. Health plans/insurance companies	☐	☐	☐	☐	☐	☐
5. The VA (Veteran's Administration)	☐	☐	☐	☐	☐	☐
6. Other health care system (describe in comment box below)	☐	☐	☐	☐	☐	☐

If the "Other" category is selected in the column or rows above, please describe.

Local (Municipal, City or County) Government Agencies

	No current relationship	Individual faculty engaged independently (no formal approach of the schools or college)	Relationship is recognized in our school or program annual work plan or strategic plan	Specific contracts or agreements in place to provide services	Other (describe in comment box below)	Don't know
1. Public health agency	☐	☐	☐	☐	☐	☐

	No current relationship	Individual faculty engaged independently (no formal approach of the schools or college)	Relationship is recognized in our school or program annual work plan or strategic plan	Specific contracts or agreements in place to provide services	Other (describe in comment box below)	Don't know
2. Human services (not public health)	☐	☐	☐	☐	☐	☐
3. Public safety/policing	☐	☐	☐	☐	☐	☐
4. Housing/community development	☐	☐	☐	☐	☐	☐
5. Policy/legislative issues	☐	☐	☐	☐	☐	☐
6. Transportation	☐	☐	☐	☐	☐	☐
7. Other local municipal city or county agencies (describe in comment box below)	☐	☐	☐	☐	☐	☐

If the "Other" category is selected in the column or rows above, please describe.

State Agencies

	No current relationship	Individual faculty engaged independently (no formal approach of the schools or college)	Relationship is recognized in our school or program annual work plan or strategic plan	Specific contracts or agreements in place to provide services	Other (describe in comment box below)	Don't know
1. Public health department	☐	☐	☐	☐	☐	☐
2. Human services (not public health)	☐	☐	☐	☐	☐	☐
3. Public safety/policing	☐	☐	☐	☐	☐	☐
4. Housing/community development	☐	☐	☐	☐	☐	☐
5. Policy/legislative	☐	☐	☐	☐	☐	☐
6. Transportation	☐	☐	☐	☐	☐	☐
7. Other state agencies (describe in comment box below)	☐	☐	☐	☐	☐	☐

If the "Other" category is selected in the column or rows above, please describe.

	No current relationship	Individual faculty engaged independently (no formal approach of the schools or college)	Relationship is recognized in our school or program annual work plan or strategic plan	Specific contracts or agreements in place to provide services	Other (describe in comment box below)	Don't know
20. Other organization (describe in comment box below)	☐	☐	☐	☐	☐	☐

If the "Other" category is selected in the column or rows above, please describe.

Thank you for taking the survey!

Other Organizations

	No current relationship	Individual faculty engaged independently (no formal approach of the schools or college)	Relationship is recognized in our school or program annual work plan or strategic plan	Specific contracts or agreements in place to provide services	Other (describe in comment box below)	Don't know
1. Medicare (Federal program/agency)	☐	☐	☐	☐	☐	☐
2. Medicaid (Federal & State program)	☐	☐	☐	☐	☐	☐
3. Patient Centered Outcomes Research Institute (PCORI)	☐	☐	☐	☐	☐	☐
4. Agency for Healthcare Research and Quality (AHRQ)	☐	☐	☐	☐	☐	☐
5. National Institutes of Health (NIH)	☐	☐	☐	☐	☐	☐
6. Centers for Disease Control and Prevention (CDC)	☐	☐	☐	☐	☐	☐
7. Health Resources and Services Administration (HRSA)	☐	☐	☐	☐	☐	☐
8. World Health Organization (WHO)	☐	☐	☐	☐	☐	☐
9. Indian/Tribal Health	☐	☐	☐	☐	☐	☐
10. Voluntary Health Agencies (e.g., lung, health, diabetes, cancer, arthritis)	☐	☐	☐	☐	☐	☐
11. Minority groups (e.g., race, disability, LGBTQ)	☐	☐	☐	☐	☐	☐
12. Faith-based organizations	☐	☐	☐	☐	☐	☐
13. Early childhood education centers	☐	☐	☐	☐	☐	☐
14. Schools districts (K-12)	☐	☐	☐	☐	☐	☐
15. Post-secondary education, including trade schools	☐	☐	☐	☐	☐	☐
16. Chambers or other business groups	☐	☐	☐	☐	☐	☐
17. Businesses, private sector employees	☐	☐	☐	☐	☐	☐
18. Community service organizations (e.g., United Way, YMCA, Urban League)	☐	☐	☐	☐	☐	☐
19. Foundations	☐	☐	☐	☐	☐	☐

GEORGIA SOUTHERN UNIVERSITY

Are you interest in participating in a follow-up phone interview?

We are would like to hear thoughts and opinions about the health culture in your school or college and barriers and facilitators to academic-community engagement. You will be presented with information relevant to health and academic-community engagement in semi-structured phone interview.

The interview should take 25-30 minutes to complete. Your participation in this phone interview is voluntary. You have the right to withdraw at any point during the interview, for any reason, and without any prejudice. If you would like to contact the Principal Investigator in the study to discuss this research, please e-mail Maria I. Olivas at mo01736@georgiasouthern.edu.

Please note that that the previous responses will not be linked to your phone interview. Also, the phone interview will be recored and transcribed for future analysis.

By clicking the button below, you acknowledge that your participation in phone interview is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

- ○ I consent to participate in the phone interview, and I will provide my name and email address to be contacted to schedule a time for an interview
- ○ I do not consent to participate in the phone interview

Please enter your name

Please provide your email address to be contact to schedule a phone interview.

→

APPENDIX C

SEMI-STRUCTURED PHONE INTERVIEW CONSENT FORM

JIANN-PING HSU COLLEGE OF PUBLIC HEALTH
DEPARTMENT OF COMMUNITY HEALTH BEHAVIOR AND EDUCATION

INFORMED CONSENT
Study Title: Exploring health attitudes and academic-community engagement of faculty at accredited schools and colleges of public health

Study Investigator: Maria I. Olivas Dr.PH (c), MPH, Principle Investigator
Doctorate of Public Health Student
Department of Community Health Behavior & Education
Jiann-Ping Hsu College of Public Health

Purpose of the Study: We are interested in understanding the health attitudes of faculty at accredited schools and colleges of public health and their level of academic-community engagement. If you choose to participate in this research, you will be asked to participate in an additional individual semi-structured interview that will last no more than 30 minutes. Individual interviews topics will include your knowledge and attitudes about the health culture of in your schools of college; and barriers and facilitators to academic-community engagement. The individual interview will be audio recorded and later transcribed for analysis. Participants will be presented with information relevant health culture and academic community. In return we hope that the findings of the study will support findings of the main study; with goal to establish a baseline measure of the culture of health among faculty in schools and colleges of public health and its impact on academic-community engagement.

Procedures to be Followed: Participation in this research will include a semi-structured interview that will last no more than 30 minutes. Your information will be kept confidential. Your name will not be included in any report. The interview will be audio recorded and transcribed. Your name will not be included in the transcription. The recording of your interview will be kept on a password protected computer. Only Maria Olivas and members of research team will have access to your recorded interview. The audio recording and electronic transcript will be kept for seven years on Maria's password protected computer.

Discomforts and Risks: No potential risks or discomfort to you are foreseen in the study; however, some of the questions may ask you sensitive information about your feeling regarding the culture of health in your campus. Your participation in this research is voluntary and you have the right to withdraw at any point during the study, for any reason, and without any prejudice.

Benefits: Your participation will contribute to a better understanding of the impact of health attitudes on academic-community engagement, and to highlight barriers and challenges for community engagement and for a supportive health culture within schools and colleges of public health. Also, the in-depth analysis of this issue will pave the way for schools of public

health and colleges to engage in organizational analysis of their own impact on health and engagement.

Statement of Confidentiality: The interview will be audio recorded and transcribed. Your name will not be included in the transcription. The recording of your interview will be kept on a password protected computer. Only Maria Olivas and members of research team will have access to your interview recording. All information collected in this study will be presented as the whole group of participants rather than by each individual person. The data collected will be maintained for seven (7) years from completion of the study, per the Georgia Board of Regents retention policy. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

Right to Ask Questions: Participants have the right to ask questions and have those questions answered. If you have questions about this study, please contact the Principal Investigator Maria I. Olivas at mo01736@georgiasouthern.edu., or by phone at (949) 648-0985. For questions concerning your rights as a research participant, contact Georgia Southern University Office of Research Services, 912-478-5465.

Voluntary Participation: Your participation in the phone interview is completely voluntary. You may stop the interview at any time.

Consent: by signing at the button below, you acknowledge that your participation in the study is voluntary. That you are 18 years of age, and that you are aware that you may choose to terminate the interview at any time and for any reason.

Please feel free to print this consent form for your records.

_____ _____

Participant Signature Date

I, the undersigned, verify that the above informed consent procedure has been followed.

_____ _____ Investigator

Signature Date

APPENDIX D
SEMI-STRUCTURED PHONE INTERVIEW GUIDE

Semi-structured Phone Interview Guide

Hello. I would like to welcome you to our meeting today and thank you for your participation. My name is Maria Olivas. I am a doctoral student at Jiann-Ping Hsu College of Public Health at Georgia Southern University. I would like to speak to you about your perceptions of a health culture in your campus and also about academic-community engagement. The interview should last roughly 30 minutes. We plan to audio record the interview, to make sure we capture everything that is said. Are you okay with my audio recording the interview? I would also like to assure you that everything said here will be kept confidential. Your name will not be attached to any of the comments or transcripts. Do you have any questions before we begin?
Okay, let's get started

1. What is your relationship with the campus?
   Probe: your role (tenured), nature, length of time, etc.
2. In your opinion, what is the health status of faculty in your schools or college of public health in the Willow Hill/Portal Community?
   Probe: Positive and negative aspects of health, Major issues, Access to healthcare services
3. What role does the leadership play in creating or promoting a culture of health in your schools or college of public health?
   Probe: What role does structure policies play? What role does the faculty play? What role does your physical environment play?
4. What efforts your school or college of public health made to address the health of the faculty, staff, and students?
   Probe: Specific programs, duration, barriers, facilitators, faculty awareness
   a. What are the strengths of these efforts?
   b. What are the weaknesses of these efforts?
5. Is there a need to expand these efforts/services? If not, why not?

7. Who are the "leaders" specific to promoting a culture of health of your school or college of public health?
8. Using a scale from 1 to 9, how much of a concern is the of the faculty to the leadership in your schools or college of public health (with 1 being "not at all" and 9 being "of great concern")? Please explain.
9. How are these leaders involved in efforts regarding improving the health of staff? Please explain. (For example: Are they involved in a committee, task force, etc.? How often do they meet?
10. Now I would I would like to ask you about academic-community engagement. How do you define academic-community collaboration?
    a. Has your school or college defined academic-community collaborations? If so what their definition?
11. What is your school or college overall approach to academic-community collaboration?

Probe: school or college' mission statement, strategic planning, special center, coordinator

12. Where you think about schools and colleges of public health what services come to mind that they provide to their communities?
    a. In what ways do schools and colleges of public health add value to their communities?
13. What are the greatest challenges faced by schools and programs of public health when engaging in academic-community collaboration efforts?
14. Based on the answers that you have provided so far, what do you think is the overall feeling among faculty in your school or college regarding academic-community collaboration

    Probe: Faculty knowledge level of training in academic-community engagement

That was my last official question. Is there anything else you would like to add before we wrap up today?

Thank you so much for participating in today's discussion.

APPENDIX E
DETAILED TABLE WITH RESEARCH QUESTIONS AND ANALYSIS

Research Question, Survey Question and Analysis

Research Question	Measure/Concept	Question #	Survey Question Responses and Coding		Analysis
	RWJF Health Attitude Survey				
Main Question 1: What is the health attitude of faculty and lectures at SPHs?	Health interdependence	1: E, H, J, M, P, S	**Q1: Here is a list of some things that affect people's health and well-being. Please rate each on a scale from 1 to 5 where 1 means it has no effect on health and 5 means it has a very strong affect** E- Neighborhood Options for Healthy Food and Exercise H- Amount of Social Support L- Physical Environment Such as Clean Air and Water M- Community Safety P- Where a Person Lives S- Examples Set by People Around You	Ordinal Likert scale: 1= No Effect; 2=Somewhat No Effect; 3= Neither Agree Nor Disagree; 4=Somewhat Effect; 5=Very Strong Effect A person's overall score is the average across the six items. We will then be grouped respondents into three categories based on their average summative score on value of health interdependence: **weak or weak agreement** (average score 1 to 2.9); **moderate agreement** (average score 3 to); or **strong or very strong agreement** (average score 4 to 5).	Proportion of respondents who fall into each category
	Perspective on health	4	**Q4: Overall, would you say that you live in an unhealthy community, a healthy community, or one that is somewhere in between?** 0=Unhealthy; 1=In-Between; 2=Healthy	Ordinal variables: 0=Unhealthy; 1=In-Between; 2=Healthy	Proportion of respondents who fall into each category

		20_1	**Q20_1: Please indicate how much you agree or disagree with the following statement:** I think even if I get involved, I really can't make a difference on behalf of health in my community.	Ordinal Likert scale: 1= Strongly Disagree; 2=Somewhat Disagree; 3= Neither Agree Nor Disagree; 4=Somewhat Agree; 5=Strongly Agree	Proportion of respondents who fall into each category
		23	**Q23: Which of these statements do you agree with most?** 1= If people in the community worked together it would be easy to make it a healthier place to live 2= if people in the community worked together it would not be easy, but it would be possible to make it a healthier place to live 3= if people in the community worked together it would be impossible to make it a healthier place to live.	Ordinal indicator with three levels of hardness: 1, 2, 3	Proportion of respondents who fall into each category
	Expectations on health and well-being	7-11	**Q7-11: In the following section, we list goals that some people think are important for communities in U.S. For each, indicate whether you think it should be a top priority, important but not a top priority, or not a priority at all for communities. In these statements, when we refer to "communities," we mean all communities not just your own.** *Should the following be a top priority, important but not a top priority, or not a priority at all for*	Q7-11: Will be an ordinal indicator with three levels. of priority: 1= Top Priority 2= Important but Not Top 3= Not a Priority at All	Count how many of these possible polices each responded rated a top priority and report percentages of the respondents who considered each value of these to be a top priority

		communities? **Q7:** Making sure that the disadvantaged have an equal opportunity to be healthy **Q8:** Making sure that healthy foods are for sale at affordable prices in communities where they are not **Q9:** Making sure that there are safe, outdoor places to walk and be physically active in communities where there aren't any **Q10:** Making sure that there is decent housing available for everyone who needs it **Q11:** Making sure that there are bike lanes, sidewalks for walking and public transportation available so that people do not have to always rely on cars		
Emotional connection to community	13 A-L	**Q13 (A-P): The following statements about community refer to your neighborhood. How well do each of the following statements represent how you feel about this community? Not at all, somewhat, mostly, or completely.** A. I can Trust People in This Community B. I Can Recognize Most of the Members of This Community C. Most Community Members Know Me D. This Community Has Symbols and Expressions of Membership Such as Clothes, Signs, Art, Architecture, Logos, Landmarks, and Flags That People Can	Ordinal Likert 4-point Likert scale 0= No at All; 1=Somewhat; 2= Mostly; 3=Completely	These are two subscales: questions (A-F) measures emotional-connection and questions (G-L) measure sense of membership. A score will be separately calculated for each of the two subscales. Each scale contains six questions. For each item, the item asks respondents to indicate how well the statement represents how they feel about their communities on a scale from 0 to 3, where 0 is not at all well, 1 is somewhat, 2 is mostly, and 3 is completely. We will average the score for each

			Recognize E. I Put a Lot of Time and Effort into Being Part of This Community F. Being a Member of This Community Is Part of My Identity G. It Is Very Important to Me to Be a Part of This Community H. I Am with Other Community Members a Lot and Enjoy Being with Them I. I Expect to Be Part of this Community for a Long Time J. Members of This Community Have Shared Important Events Together, Such as Holidays, Celebrations, or Disasters K. I feel Hopeful About the Future of This Community L. Members of this Community Care About Each Other		subscale (emotional connection and sense of membership) and grouped respondents into three categories weak (score between 0 and 0.9), moderate (score between 1 and 1.9), or strong (score between 2 and 3).
	Sense of membership	13 M-P	M. My Community Can Work Together to Improve Its health N. My Community Has Resources to Improve Its Health O. My Community Works Together to Make Positive Changes for Health P. I know My Neighbors Will Help Me Stay Healthy		
	ASPPH Survey				
Question 2: Is there a relationship between health attitudes and academic-community engagement	Type or level of engagement in population health activities	*1: A, F, G, J*	**Q1 (A, F, G, J): Looking beyond curricula, please indicate the population health activities in which your school or program is currently engaged by selecting the option(s) that describe the type or level of engagement. Check all that apply.**	Will be treated as indicators and responses will be coded as: 0= No; 1=Yes; (they did not select the response, or they did). Other will enter in a text box. None, it will be code as 0. We will not	Relationship between Q1-3 from the ASPPH survey and Q13 from the RWJF survey will we measure simple linear regression

among faculty at SPHs?			A. Strategic planning and facilitation with external entities F. Convening cross-sectoral partners G. Providing expertise in community engagement J. Other	worry about Don't know response **Responses are:** -Individual faculty engaged independently (no formal approach of the schools or college) -Included in our school or college annual work plan or strategic plan -Specific contracts or agreements in place to provide these services to external groups -Other (describe in comment box below) -None (not involved in this activity)
	Engagement in working relationship with: **parent institutions**	2: a-h	**Q2 (A-H): For each group, please select the option(s) that best describe(s) your school or college's current working relationship on population health issues with groups within your parent institutions. Check all that apply.** A. Medical School B. School of Pharmacy C. School of Nursing D. School of Dentistry E. Teaching hospital affiliated with your parent institution F. Other clinical partners affiliated with your parent institution G. Business management and/or law schools H. Other (describe in common box)	**Q2-3: each response will be treated independently, responses will be code as:** 0= No relationship; 1= yes (no relationship or they have a relationship and they selected a type of relationship). Other will be other with a text box. We will not worry about Don't know response. Type of relationships include: -No current relationship -Individual faculty engaged independently (no formal approach of the schools or college) -Included in our school or

			college annual work plan or strategic plan -Specific contracts or agreements in place to provide these services to external groups -Other (describe in comment box below) -None (not involved in this activity)
Engagement in working relationship with external organization: **Health care system organizations**	3a	**Q3A: For each organization, please select the option(s) that describe(s) your school or college's current working relationships on population health issues with the type of external organizations listed below. Check all that apply.** 1. Hospitals 2. Medical groups 3. Federally qualified health centers, community health centers, rural health clinics or free clinics 4. Health plans/insurance companies 5. The VA (Veteran's Administration) 6. Other health care system (describe in comment box below)	
Engagement in working relationship with external organization: **Local (municipal, city, or county) government agencies**	3b	1. Public health agency 2. Human services (not public health) 3. Public safety/policing 4. Housing/community development 5. Policy/legislative issues 6. Transportation 7. Other local municipal city or	

		county agencies (describe in comment box below)
Engagement in working relationship with external organization: **State agencies**	3c	1. Public health department 2. Human services (not public health) 3. Public safety/policing 4. Housing/community development 5. Policy/legislative 6. Transportation 6. Other state agencies (describe in comment box below)
Engagement in working relationship with external organization: **Other organizations**	3d	1. Medicare (Federal program/agency) 2. Medicaid (Federal & State program) 3. Patient Centered Outcomes Research Institute (PCORI) 4. Agency for Healthcare Research and Quality (AHRQ) 5. National Institutes of Health (NIH) 6. Centers for Disease Control and Prevention (CDC) 7. Health Resources and Services Administration (HRSA) 8. World Health Organization (WHO) 9. Indian/Tribal Health 10. Voluntary Health Agencies (e.g., lung, health, diabetes, cancer, arthritis) 11. Minority groups (e.g., race, disability, LGBTQ)

		12. Faith-based organizations 13. Early childhood education centers 14. Schools districts (K-12) 15. Post-secondary education, including trade schools 16. Chambers or other business groups 17. Businesses, private sector employees 18. Community service organizations (e.g., United Way, YMCA, Urban League) 19. Foundations 20. Other organization (describe in comment box below)	
Question 3: What is the knowledge and attitude, of faculty and lectures, on the health culture in SPHs among?	***Semi-Structured interview*** Knowledge, attitudes, barriers, and facilitators		Thematic analysis
Questions 4. What are the barriers and facilitators to academic-community engagement among faculty and lectures at SPHs?	Knowledge, attitudes, barriers, and facilitators		Thematic analysis

APPENDIX G
INTERVIEW THEMES TABLE
Interview Coding Themes

Themes/Questions		Description/Quote	Files
RQ: 3 What is the knowledge and attitude of faculty about the health culture in SPHs?			
Survey questions What is your academic relationship with the campus, including length of time? What is the health status of faculty in your schools or college of public health, including positive and negative aspects of health? Using a scale from 1 to 9, how much of a concern is the health of the faculty to the leadership in your schools or college? What role does the leadership, faculty, and environment play in creating or promoting a culture of health in your schools or college of public health? What efforts your school or college make to address the health of the faculty, staff, and students, including programs, barriers, and facilitators?			
Perceptions of health, barrier and facilitator for a culture of health			
Relationship with campus			8
	Academic role	Assistant professor non tenured 1F_9SE 3F_20W 6F_18W Associate or Full professor tenured	

Themes/Questions		Description/Quote	Files
		2F_1M 4M_3M 5M_8N 7F_20W 8F_3M	
	Length in position	3 years and 3 months- 1F_9SE fifth academic year there so I guess 4 ½ years- 3F_20W Ten years since 2010- 4M_3M 2 years- 5M_8N been in the campus for 10 years- 7F_20W One and a half year on campus- 8F_3M	
Perceptions of health			8
	Access to health care	Structural (espoused values and beliefs)	6
	Available, but not always accessible	"I think access to care is not an issue, the quality of care, and the amount of effort one has to put in to receive that quality of care, does differ from person to person" 1F_9SE "we have access to healthcare but sometime is frustrated to get an appointment, just the way the scheduling works" 2F_1M "so much demand from high needs patients that, so it's not, it's sort of referred to as you typically can't get an appointment and so people go elsewhere. There is healthcare available but it's not accessible" 8F_3M	3
	No issue	"everyone has health insurance, and there is a hospital pretty close by" 4M_3M	3

Themes/Questions		Description/Quote	Files
		"have well extensive and well health care coverage, actually health care" 5M_8N "we have access to healthcare in a way that it's affordable. We do have a faculty and staff health care center on campus that you could access" 6F_18W	
	Leaderships concern for health		8
	Average	Average concern (5) from a scale of 0 to 9 , I don't think that the institution spends any time thinking about the health of the employees. I think that they assume that the faculty it's healthy, and that the faculty has resources that they need to be responsible for their health… I don't think that they think that the health of the faculty is an issue. 7F_20W	
	Mental health		7
	Negative	Individual (basic underlying assumptions) individuals perception of "I find myself just for years and years and years on end like you know, is never enough there's always a giant mountain of work to do its extremely, extremely stressful" 3F_20W "there is disparities that are experienced on faculty in both, resources, treatment and support, as it pertains to the way of the current leadership has identified for programs and or people that they greatly support… I know for a fact that there is a lot of fatigue and mental" 6F_18W Structural (espoused values and beliefs)	7

Themes/Questions		Description/Quote	Files
		Budget cuts "We had some budget cuts and some other contextual issues in our university such that the morale is low, and people are stress" 2F_1M "continually reduced budget… faculty salaries have not kept up with comparable institutions, so that is affecting the social emotional well-being of the faculty and the morale" Tenured "I am not in the tenure earning line, but I know of faculty who are that so I think the tenure earning place quite a lot of pressure on people because there is a clock that they are tied to, and they are expected to do quite a lot in that period of time" "I am 38 years old and I got my PhD when I was 25, and when I was 25 I thought, six or 7 years from now I'll have tenured and I can have a baby without worrying, been worried about been fired, but I didn't end up in a full-time tenured position until five years ago, and so now, you know, I am at the end of a baby clock, thinking to myself would I ever be able to do this? … I just grade all this papers, write five manuscripts, I wouldn't have time to see a baby" 3F_20W "assistant professors do a get a fair amount of pressure to get tenured and get their research done and so forth, so I think there is a little bit more stress" 4M_3M "I think it's very stressful for, as all places are, for PhD students, our faculty on their tenure track, for faculty who aren't on or turn your truck, there's marginal you know, there is concerns about, am I going to be higher next year" 8F_3M	
	Positive	Environmental (artifacts)	2

Themes/Questions		Description/Quote	Files
		Focus on mental health "lot of folks in that program are focused on you know individual and family well-being or mental health or just sort of functioning you know that kind of sort of basic well-being, and their emphasis I think brings a similar kind of attention" 3F_20W "for example the mental health, you know emphasis there's been this year…there were cards that you could put on your desk so you have it available for students, and that to me it's like a structure, making space in the office for that person, in our Dean's or in our school" 8F_3M	
	Physical health		3
	Negative	Structural (espoused values and beliefs) Flexibility for staff "they don't necessarily have the same flexibility, and I think that it causes just a different set of issues with staff, as supposed to faculty" 2F_1M	3
		Lack of time " its really more the time. I think, I think people can manage the pressure or the expectations of the job if it were more contain in a reasonable amount of time for if it actually allowed for leisure" 3F_20W	
		Individual (basic underlying assumptions Repetitive and sedentary behaviour "this job that we are signed up for, for many, many years doing the same thing can lead to some of these physical conditions, and from doing a repetitive action" 1F_9SE	

Themes/Questions		Description/Quote	Files
		"seating continuously behind their computer for so many hours, and they've had issues with their necks, or other things come up, they have the carpal tunnel syndrome" 1F_9SE	
	Positive	Structural (espoused values and beliefs) time "the positives are that you're an academic position, you know people for the most part have liberty to exercise and you know I have a flexible schedule which I think is helpful for mental and physical health" 2F_1M	1
	Overall health		5
	Mostly healthy	"Most, majority of our faculty, physically what I see, is they all seem you know, healthy, happy, stress which is normal for them" 1F_9SE "We are a college of public health, and I think for the most part folks are pretty healthy I think that I think people appear to be for the most part physically healthy" 2F_1M "I think, you know I think we're relatively well off, and I think that in general to health is pretty good, and speaking of kind of mental health in our department I think we're pretty good department" "something along the lines of average" 5M_8N "our campus is in one of the healthiest counties, and one of the healthiest communities… if you use metrics like the Robert Wood Johnson's County Health Rankings, so as a population we are healthy faculty in at the same time" 7F_20W "It appears to be a fairly healthy group, I think people take the fair, they walk a lot for some of those physical attributes, they are subject to school public health" 8F_3M	
Barriers and facilitators			
	Barriers		7
		Individual (basic underlying assumptions	2

Themes/Questions		Description/Quote	Files
	No deliberate efforts	**Lack of awareness of services** "people have to become more aware of these services" 1F_9SE Structural (espoused values and beliefs) **No deliberate efforts to promote health** "we're in a research institution where the focus is on teaching and research, and so that's where I see them providing more of the leadership in progression to this, health while it is important, I don't see necessarily them providing that level of leadership, but then again I don't think they are the right people who need to be doing that" 1F_9SE "I don't think that they are doing much deliberately, I think that when you're in school of public health or college or public health people make assumptions that oh we're college of public health so we are healthy, that's not necessarily true, so I don't think that there's enough done deliberate" 2F_1M "I think that there aren't any broad college level initiatives, I mean I do think faculty staff fitness and physical activity classes are an important initiative, but you know those are really focused on one specific aspect	1 6 1

Themes/Questions		Description/Quote	Files
		of health, and in terms of all of the other things I don't think that there is any effort at all" 3F_20W "We do not have any organizations or any other entities that they support these kinds of activities [meaning health related activities]… in terms of the school, there is not an organization or an office through the school like this, believe it or not. "Oh, nothing, they do a couple of events, I don't know if morale is considered part of what they do for health" 6F_18W Not designed by faculty "I think a lot of that has to be faculty let, you can imposes things like on faculty" 2F_1M "I think like all of these things, the inclusiveness of the environment matters if it feels like this is just like coming from the faculty or the leadership, and it's not really created with the people in mind, I don't know how exactly say that, it ends up not being really utilized"	

Themes/Questions		Description/Quote	Files
		No equitable access "while there are a lot of efforts, all of those efforts are available, but not equally access you have to everyone. So, if you have faculty staff fitness, lots of options for people, but that's faculty staff in there. Staff who half hourly wage jobs, which are our classify staff, many, many, many people on campus, we couldn't operate without them, they can't go anytime because they get paid by the hour, so they can't take an hour of work to go to a faculty staff fitness program or they don't get paid, or they take your lunch time, so they don't have lunchtime" 7F_20W	
	Assumptions and unsupportive leaders	Individual (basic underlying assumptions **Assumptions around public health** "by nature of just being public health, it's we really do you assume quite a bit that we preach what, what is that, whatever that terminology is. Yeah, in public health basically we are always sending our messages, conveying what's the right thing to do to be healthy, and so indirectly	2

Themes/Questions		Description/Quote	Files
		the assumption is all of us because we are public health practitioners do try our best to align or follow those guidelines" 1F_9SE "I don't think that the institution spends any time thinking about the health of the employees. I think that they assume that the faculty it's healthy, and that the faculty has resources that they need to be responsible for their health… I don't think that they think that the health of the faculty is an issue" 7F_20W **Unsupportive leaders** "I can't think of leadership from another institution or from you know government or other organizations that I can imagine, you know kind of giving voice to protecting faculty and student health" 3F_20W "I know that my Dean boost that he's never had a faculty member taking a sabbatical, he's proud of that. So, whereas a sabbatical can be an opportunity to kind of readjust, reinvest, or to re-focus on your work to be successful" 6F_18W	2

Themes/Questions		Description/Quote	Files
	Poor environment	Environmental (artifacts) **Access to healthy foods** "we're kind of in a food desert, like we don't have access to a lot of healthy foods, where we are, even that we are college… we have a cafeteria with very limited hours, and otherwise you have to you know get in your car to go get it" 2F_1M **Poor physical environment** "I've been speaking to some faculty who are in a building where they are in the basement where there is actually mold, and other things. So, their physical environment is horrible" 1F_9SE "there's no place to exercise on site, and you know, our cafeteria hours are limited. So I think in terms of kind of those basic things, physical health they are limited, I think that there is probably some mold, bathroom roaches" 2F_1M "we are not allow to use the stairs for example to go up or down, which is a health exercise you think in the school of public health for promote physical activity, but that's for safety, for public safety being" 5M_8N "buildings, with lots of grad students officers, mastered officers are internal without windows, so that's not ideal" 8F_3Mv	5
	Tenured and work expectations	Structural (espoused values and beliefs) "I don't think, they are not assessing me on how healthy I am, you know they are assessing me on my research, my teaching, and on my service, and what I did. They don't really care if I am like immobile in a hospital, on a ventilator, but I still published all the articles that they wanted, and I got the grant, and I am supporting students, they are absolutely happy about it" 1F_9SE	

Themes/Questions		Description/Quote	Files
		"one is the issue with work load and having really clear, really transparent ways of calculating what people's FTE's is and what is allocated to, and actually accounting for…I have a ton of them. And there's a lot of things that we do that don't get counted, they don't have a formal way of being counted, and so we just do those things pretty individually" 3F_20W	
	Facilitators		8
	Supportive environment	Environmental (artifacts) **Healthy community and resources** "We are in a very healthy town, in a very healthy community, with easy access to a whole host of environmental resources or health, there's no absences there" 7F_20W **Programs, centers, or initiatives** "there are other thing like a rec centers and stuff that encourage access to you know healthy activities" 4M_3M "we have an employee assistance program, and they have a lot of range of services all the way from counseling to financial advising type of thing, so we have more than enough resources as faculties at this institution" 1F_9SE	7 4

Themes/Questions		Description/Quote	Files
		"we have faculty senate, like our faculty senate, and the faculty they try to lead" 2F_1M "we have different initiatives for, we, we also have there's a whole separate fitness programs for graduate students and undergraduates, like, you know physical activities courses that are these one credit course that people can take" 3F_20W "there are signs around and poster is related to good health, that's including healthy eating exercise, there is yogurt available for students and faculty, and then also a think mental health…There is a university wide wellness program, that there are incentives to participate in" 8F_3M **Walkable** "kinesiology also brings this kind of culture of you know, people would do you walking meetings, and they think it's you know, like really important, and they always dress like in active wear and stuff, so that you know, the rest of us are dressed up wearing our you know, our grown-up clothes, and is just like the presence of active wear and like people who are fit and sporty, I think, kind of shows, it reminds all the rest of us people behind or desk, hey work your body as well" 3F_20W "we got a park that I know a lot of people do go for walks	

Themes/Questions		Description/Quote	Files
		in, I think that for the most part the campus is pretty walkable" 4M_3M "the physical environment is conducive to things like, even walking, even taking the stairs when you come I" 6F_18W "There are lots of sidewalks, and ability to walk, and our school is close to a park, and so we … try to do walking meetings" 8F_3M	
	Supportive policies		7
		Structural (espoused values and beliefs) **Policies** "there are policies where your computer after one hour and 30 minute of sedentary continuous work starts beeping where it tells you to get up off of your desk and like walk around for like five minutes, or something like that. Like that's a policy you can institute, and then you make everybody do it, then that can lead to people not to sit in the same place for so long, and it gives them some cardio" 1F_9SE "make some institutional, and strategic and process based commitment to diversity and inclusion because that's a health issue" 2F_1M "there should be procedures or something on how business is done in academics, scholarship in the community so it could be more friendly for giving faculty more opportunities to engage in different activities when you are teaching in the evening of course" 5M_8N "There is a policy in the university that you can apply for sabbatical, but if your leadership is not in supportive of that, I don't think that you'll get it.	

Themes/Questions		Description/Quote	Files
		Where are university structures in place, but certainly, the department or school's actions are different" 6F_18W "I think that policies are critical, but the implementation of those policies needs to be evaluated…you basically need to change the mental model of a culture of health it's the social institution in higher education that it's really ready for the kind of transformation" 7F_20W "the mental health emphasis there's been this year, put in it directly in the syllabus, with the name of the person, the email contact… that to me it's like a structure, making space in the office for that person, in our Dean's or in our school" 8F_3M Individual (basic underlying assumptions) **Shared vision for culture of health** "if the leaders share a vision culture of health, they would be instrumental for advancing a culture of health because they would reinforce that in a way that address inequities that negatively impact health" 7F_20W Structural (espoused values and beliefs) **Strategic planning**	

Themes/Questions		Description/Quote	Files
		"I think that, so we had a faculty lead strategic planning process, way before I started add (omitting name of school) in the faculty all around the school participated in do you know designing a process that actually did specifically called out the satisfaction and fulfilment of faculty as a priority outcome and peoples' physical and mental well-being, as you know people the college, I think that was really important" 3F_20W	
	Health promoters.		7
		Individual (basic underlying assumptions **Faculty** "I think maybe if you are a full professor, and you serve as a mentor to junior faculty then you could sit there, and because you have that big level way of looking at stuff, you can sit there and say you know what, in addition to you being a principal researcher, and teacher maybe you need to consider, you know, spending some time like taking some mental health breaks… so I think giving my position as a junior faculty member, I think I don't have the time or the strength, or the pool within our institution to do much" 1F_9SE "I think it is our responsibility where you know, we keep the rigor, but at the same time we support and create a generation that is able to maintain their health and their mental health, and we don't thank necessarily you know create mental ambient were students feel on included or do you know or where mental health is stigmatize" 2F_1M "I was taking one of those classes with my colleague and I made a joke while we were coming back into our building, we were wearing leggings and tank tops and stuff, and I was gosh, you know, we are wearing our jammies, our workout clothes like in our office, and she was like this is important for people to see the people took time out of their day and they went in they did their exercise class and this is fine, like no one should think that we're being weird by taking time to do this" 3F_20W	

Themes/Questions		Description/Quote	Files
		"the faculty and staff, you know they are encouraging people to participate in these university wide things, and kind of department things who does x, y, and z. But, there's probably more focused on you know what can we as a school or department chair to support the health and mental health of students, you know make sure they're aware of resources" 4M_3M "What we should do, is try to maintain a healthy lifestyles in our lives" 5M_8N "I think that your senior faculty could help encourage health outcomes and success within junior faculty, and serve as mentors and or has examples if they choose to, I don't think that that necessarily happens, that it might not be happening as effectively as they would like it our schools, or as I would like in our school" 6F_18W "I think talking about it directly in class with our students about how, especially in the school of public health where we are teaching about social determinants of health" 8F_3M **Leadership**	

Themes/Questions		Description/Quote	Files
		"I think for us that's primarily the Dean's office is where it's coming from, so I think the Dean's office, they are the ones who are spearheading a lot of these effort" 1F_9SE "there is some associate deans' roles where you know they're really looking at morale and stress" 2F_1M "I think it's especially important for you know, health programs and health colleges to take leadership, visible leadership on that issue and you know, try to set an example for other programs across the university you know, because who else is more invested in health outcomes for people in the communities than we are, and yet, when you look at our own daily behavior, you don't really see a lot of those principles reflected" 3F_20W "For the most part I think the department and the Dean, and the university you know president and so forth are doing a good job of that, and I think the university over all it's a pretty good job on promoting a work life balance" 4M_3M "I think certainly the Dean should encourage, I think all Of the deans, the associate Dean, department chairs, should all encourage an environment of physical activity and wellbeing, and if it became an established	

Themes/Questions		Description/Quote	Files
		expectations of awareness of health and wellnesses, then it would be certainly disseminated throughout the faculty" 6F_18W "Well, so I think that one of the most visible things I've seen from the Dean, the office, and chair in my department sort of leadership it's around mental health, mental well-being, for our students but I think it's spilled over" 8F_3M **Students** "I don't think that that necessarily comes from people that are always in leadership positions, I think that people who are leadership positions… I think that sometimes unfortunately it may come from a problem that's happened, sometimes the leaders can be the students, like hey you know there's no place to work out here, or we hungry, or you know I think that sometimes it can result from a problem, and I think that in terms of leadership" 2F_1M "I can also say the students are, you know we should give them credit for they are often pushing, I think, you know they are pushing the school, they are pushing the faculty to do more in different areas, so they identify problems or issues, like I am sure some of the food security, and even certainly the demand for mental health, but they are initially pushing for different ways of talking about it, to making sure that things are available to them and their peers, and so I think that's a good thing" 8F_3M	
RQ 4: What are the barriers and facilitators that impact academic-community engagement among faculty at SPHs?			
Survey questions How does your school define acidic-community collaboration? How do you define academic-community collaboration?			

Themes/Questions		Description/Quote	Files
What do you think is the overall feeling among faculty in your school or college regarding academic-community collaboration? When you think about schools and colleges of public health what services come to mind that they provide to their communities, and what value do they add to their communities? What is the overall approach to academic-community collaboration and what are the greatest challenges faced by schools and colleges of public health when engaging in academic-community collaboration efforts, including barriers and facilitators?			
Academic-community engagement perceptions, barriers, and facilitators			
Perceptions			8
	Definition and value		6
	No definition	"I don't think there is any definition for it per se, but I think there's just a difference, but if you're doing public health, public health is a collaboration type of science, and that you are talking to the community, you are talking to others, so I don't think there's a formal definition" 1F_9SE "I don't think that anybody has a definition, I don't think that there is really a definition of that, I mean you can ask different faculty, and you can ask how they do it, and there might be a might be a different answer depending on who you talk" 2F_1M "we have collaborations that function within our college as academic community collaborations or community-campus collaborations for health, we do have some, but we do not, as a college, have a shared… commitment" 7F_20W	3
	Not aware of one	"well that's a good question, I don't know, if our school has a definition for that, I am not aware of what it is" 4M_3M "I don't know" 5M_8N	3

Themes/Questions		Description/Quote	Files
		"I don't know if we have that" 8F_3M	
Individual (basic underlying assumptions Environmental (artifacts) Structural (espoused values and beliefs)	Equitable and participatory	Structural (espoused values and beliefs) "we work together to submit a proposal where I of course would take the lead on putting it together, but the community would be my partner, or my implementing, you know, my implementing partner" 1F_9SE "you know a real academic community engage program of research should be an equitable, not say hey I need 50 Latinas for my study, can I come to your activities and recruit Latinas, that's not community engagement" 2F_1M "I think there has been a much bigger emphasis in community-based participatory research recently in the last 10 years or so, and so I think that's one area where there is community engagement" 4M_3M "the community and academia work together to identify issues and solutions that are relevant to the community. When's partnerships the community and academia is equal pros, is not one overpowering the other or promoting certain agenda, seen an equal partnership on addressing the need by the community" 5M_8N	4
	Healthier communities		7
	Empowerment	Individual (basic underlying Resources "I also think that they can also bring additional resources and funding to the region to address challenges and issues" 6F_18W	7

Themes/Questions		Description/Quote	Files
		"county is a big geographic, so we used data type to identify communities that might be more resource deprived or risk exposed, and then we engage with those communities and build a model to bring resources to the community" 7F_20W Address needs "I think they add value only when they actually work actively with the community, and they address community concerns" 1F_9SE "I think they also can work with all the municipalities in assessing and creating programs that need to be created" 6F_18W "recently bring resources in to do awareness" 8F_3M Add credibility "by providing some evaluation and services that they would need, you know when they seek funding to add some credibility" 2F_1M "I think there is community care policy and advocacy, and assistance with sort of non-profits, so you know working with a nonprofit on particular…evaluation of the program they are doing, and help them present that to some of the funding agencies they get funding from. So, I think, you know faculty work with policymakers. So I know of several faculty… evaluating Medicaid expansion and things like that" 4M_3M "I think in the same way that they connect to the community, you know there is a lot of non-profits who have a really good heart, who have really good desire to do something, but they may not exactly have the skills and all the expertise to be able to measure the effectiveness, so I think that schools of	

Themes/Questions		Description/Quote	Files
		public health can help establish and maintain programs within the community" 6F_18W Educates and informs "We even do you know webinars or lectures various health topics that are of interest" 1F_9SE "education and those are part of it, community education, educated community is always beneficial" 5M_8N "provide information and some of the kind of leadership about, you know not just in the research about you know what's a new virus and how it's spreading" 8F_3M	
	Promoting health	Individual (basic underlying Healthier communities "Promoting health, this is, having healthy community or a community where the wellbeing is improved, it also that leads to a more aware, more social responsible community" 5M_8M Provide man power "we do have some faculty that kind of volunteer" 2F_1M	6

Themes/Questions		Description/Quote	Files
		"the public health workforce it's so understaffed, that any time that we extend our reach to community communities, that we are filling up a gap in those communities" 7F_20W Provides employment "I think there are definitely a lot of jobs[referring to jogs on campus] in that really very explicit way" 8F_3M Train future leaders "we can train our students best, that when they go out to work in these communities organizations, or industries, that we are training them to kind of what's cutting edge, or the community" 2F_1M "having the next generation of a public health workforce whether you'll be managing clinics, and or doing epidemiological outbreaks surveillance and things like that" 4M_3M "It provides trained workforce which is a benefit" 5M_8N "providing some sort of training" 6F_18W	
	Local & regional	"I would say working within the region in which the school was established, to help, to create, assess, or promote programs in any one specific field" 6F_18W "I would say, there is a lot of engagement with various local communities and public, and not with just immediate local, but the sort of regional" 8F_3M	2
	Skills & expertise	Individual (basic underlying	8

Themes/Questions		Description/Quote	Files
		Experts “providing expertise to community groups were that’d be about the interventions or policy advocacy” 4M_3M “depends on the community and range of the expertise of the school, but the thing is the responsibility for the school to help the community or make decision to solve some of these problems” 5M_8N “they can also be the content expert for different organizations, both your non-profit and your jurisdictional entities” 6F_18W Individual (basic underlying Individual (basic underlying Grants “we work on a lot of grants, I help them write grants that are not necessarily my projects” 2F_1M “helping putting together grand proposals, seek funding to do certain things” 3F_20W Interventions “Believe they provide health behaviour programs and interventions” 6F_18W Assessments “community health needs assessment” 1F_9SE Leverage resources “I think for me its how can we leverage the expertise, the funding, the ability to get funding you know” 3F_20W	

Themes/Questions		Description/Quote	Files
		"how to find resources weather that's information or access to providers" 8F_3M Evaluation "evaluation type of services" 1F_9SE "I think I lot of program evaluation" 2F_1M "evaluate community programs" 3F_20W "I believe they can partner on evaluating and possibly recommending programs" 6F_18W Research "qualitative and quantitative research" 1F_9SE " have full-time faculty who I think typically do research To generate new knowledge and that knowledge gets Disseminated to communities" 3F_20W	

Themes/Questions		Description/Quote	Files
		"Yeah so, there is community participatory research" 4M_3M Service-learning "we engage in public practice and that we prepare people for public health practice, everyone works [with their] MPH interns" 3F_20W "I think there is valuable education that our schools are doing in educating a public health a workforce, in providing services in the community" 4M_3M "We have interns, and other opportunities for students to engage in a variety of different ways and some other contracted services that mostly though emerges as part of a public health or MPH program" 7F_20W	
	Shared goals	Individual (basic underlying "collaboration is members of the academic community will come together to collectively allocate efforts to some sort of common shared outcome or end point" 7F_20W "we leverage the expertise, the funding, the ability to get funding you know, for the goals that communities have for themselves to improve people health and well-being, to address health disparities, you know to lower healthcare costs, improve quality of life things like that" 3F_20W	2

Themes/Questions		Description/Quote	Files
Barriers		Barriers faced by schools and colleges when engaging in academic-community collaboration	8
	Environment & policies	Structural (espoused values and beliefs)	7
	Expand collaboration	"industry partnerships I would say, they are becoming more and more important in public health where we have realized that public health is not just working with community groups that Starbucks, that pharmaceutical companies, and that larger industries they have money, and they are part of the community, and I think that sometime it's overlooked in terms of a community partnership" 2F_1M	1
	Lack of efforts	Structural (espoused values and beliefs) "you know it can take forever to get publications out of those relationships [referring to academic-community collaborations], and I wish that the institutions acknowledge more the amount of effort that it takes, and the skills that it takes to be able to do those activities responsibility" 3F_20W "There's lots of units on campus that work really hard to build a collaborative model of academic-community partnerships, but they are not institutionalized within our college in a way that it would be easy for faculty… [she gives an example of taking a year to IRB] approval] 7F_20W	2
	Tenured and promotion	Structural (espoused values and beliefs) "I think it's the overall the promotion and tenured track thing to… I think those guidelines… if there's an assessment under the research that said, oh check if you had a publication with the community leader, or like check if you submitted grants with community and leaders, and community organizations, like if you had something of that sort that it would force faculty to engage in those, but right now we're not necessarily assessed on those metrics" 1F_9SE	6

Themes/Questions		Description/Quote	Files
		"in an earlier stage of your career, where your productivity means that you're relying on your productivity to keep your job, I think that you have less of an opportunity to really engage in the level that health scholars may want to, and that really, you know, has to be addressed more in promotion and tenured issues" 2F_1M	
		"if you are a pre-tenured faculty, if you are in a tenured track… it can be maybe a little bit challenging to do community-based participatory research because you're going to have to really think about, really in the end, if you want to get tenure in a research institution, the big things are weather you bringing in dollars, you know big dollars, and are you getting a lot of publications" 4M_3M	
		"So with faculty, you know there is the junior faculty who has some very strict timeline to achieve, or close promotion, and then tenure, so and that timeline might not exactly match the time to achieve with the efforts required to develop a partnership" 5M_8N	
		"I think the new a faculty , the ones who are coming up through the ranks, so are using your approaches and value community engagement, and academic community partnership and demonstrate that, are finding that they get feedback in their promotion and tenure process that says that they are not productive enough" 7F_20W	

Themes/Questions		Description/Quote	Files
		"people who do engage in that kind of activity are often not rewarded for it, unless it's a long the sort of standard a reward for tenured line" 8F_3M	
	Knowledge and training	Structural (espoused values and beliefs) "Some of it is training, I think some people do need training before they go out, and engage the community" 2F_1M "But then going back, you know I think, I think people are interested in and in support of it, not everyone does it, and that's ok also, you know, are we trained on how to do that very well? Probably not, that's something we can probably do better out here, is finding ways to trained and mentor junior faculty and even senior faculty on how to do the community-based" 4M_3M "I think it's actually the knowledge and training of working with the academic community" 6F_18W	3
	Lack of resources		6
	Funding	Structural (espoused values and beliefs) "Usually there's no money" 1F_9SE "We are funded to do something for three years or five years, I think that's a huge challenge to build, maintain, sustain relationship in the funding environment that we have, and I think it's not necessarily constructive to build those relationships just within a funded project term, I think communities feel left out and abandon by that in a lot of cases" 3F_20W	5

Themes/Questions		Description/Quote	Files
		"NIH for the most part is very much interested in the science of something, and historically anyways they've had much more interested in the science, and so historically they are less interested in how you are kind of treating the people in the community and so, so your researcher gets a million dollar grant from the NIH and they want to do with it what they will, in some ways the community partners have less influence what's happening in terms of researchers getting these NIH dollars" 4M_3M "Finical resources is a major challenge, especially it becomes really a problem for minorities or underserved communities which they tend to have limited resources, and probably health is not for them the first priority to those who manage the resources" 5M_8N "Honestly what I think is the biggest barrier, at least this is been my experience, as I have served as primary investigator on some very big public health federally funded projects, and I have been the academic partner on other projects where I specifically recommended that a community organizer should be the fiscal agent" 7F_20W	
	Human capital	"Capital or human capital sometimes may be an issues depending on the type of activity, I know in my case it requires either academic personal, who engage or participate in community activities, or vice versa, some of the communities, community members we prepare them, and that might not always be there" 5M_N8	1
	Resources	"sometimes is resources" 2F_1M	1
Non-collaborative environment Structural (espoused values and beliefs)			4

Themes/Questions		Description/Quote	Files
	Conflicting agendas	"think it's really challenging to finding a way to meet everybody's goal because in a lot of the cases researchers might be focused exclusively on their research and communities might be a lot less interest in that" 3F_20W "the community has a certain concern or a certain agenda that academically does not make sense or doesn't have a base" 5M_8N	2
	Ivory tower	"I also think a lot of times that universities, faculty have trouble honoring the expertise of community members, and you know really making sure that communities have a voice and are engaged rather than just being kind of told what to do by people who consider themselves the experts" 3F_20W " [participant provided an example of what she heard in a community meeting] "there's this perception[in the community] that ohh you know, so is just this ivory tower and commitments, that are kind of jumping here trying to tell us what's best, and you know doing their own thing and treating the people of (omitting name) like lab rats" 4M_3M	2
	Unsupportive leadership	"[the Dean] he doesn't have those types of relationships, so therefore he doesn't, he is not able to provide relationships, so you to kind of have to build your own" 6F_18W	1
	Not important	"It's not important [referring to community collaboration], they can be incredibly successful faculty member within inside the school of public health, without necessary really engaging in the community" 6F_18W "people are generally supportive of that kind of thing, but if it's seem as taking away from your time on other activities, writing papers, publishing papers or books, getting grants, teaching your students, then it's not rewarded, then it's actually the reverse, it's not seeing positively, it can actually be seen negatively" 8F_3M	3

Themes/Questions		Description/Quote	Files
	Time	Structural (espoused values and beliefs) "it's a long process, it takes a couple of years just to establish relationships, or to gain buying and trust, and once you have that, then it's like putting together proposals, and then you get the proposal…after of so much time of actually building these relationship" 1F_9SE "time, having the time to really do it properly, to maintain the proper… sometimes is time" 2F_1M "depending on the level of the faculty the fact is that these partnerships take time to develop and then flourish, is not something that can happen over a period of a month or two months" 5M_8N	3
Facilitators			7
	Environment & policies		7
	Center	Environmental (artifacts) "centers, both related to research and services, you know there's a k-12 education…research and something like that" 4M_3M "I know that there are a couple of actual centers, like one in the department of health that it's like define expressively as a community lead" 8F_3M	2
	Collaborative	Structural (espoused values and beliefs)	1

Themes/Questions		Description/Quote	Files
		"if you come from a school, if you come from an environment were part of your definition of understanding of public health is engaging the community, then that's what you going to do …but if you come from a school of public health where those things are not emphasized then, you wouldn't think" 6F_18W	
	Strategic planning or mission statement	Structural (espoused values and beliefs) "I think ours is imbed in the strategic plan, and I believe in our mission, I would have to look up our mission, but our model or a tagline for our college is like "omitting tagline for confidentiality" and practice means being in the community doing your work" 1F_9SE "community partnerships are part of our strategic plan [speaking on her department only] because our health management community partnerships include, you know for us those kind of grass roots safety net" 2F_1M "we also have a lot of faculty who engage in academic-community partnerships, so I think that there's a definition in our strategic plan about what that means, and it's also in our mission statement, I think when you look at like the college documents, it's a very clear emphasis of what we do as a college" 3F_20W "in terms of strategic planning, it is part of the strategic planning… I know that it's a major component, it's a major strength of the school [referring to academic-community collaboration]' 5M_8N	5

Themes/Questions		Description/Quote	Files
		"I can't even recall the mission statement, but I feel the language of that is around like you know promoting health it's a key, and so that means a lot in our school itself" 8F_3M	
	Trust building	Individual (basic underlying	3
	Meets community	"when I work with community members, inviting them to campus is very difficult because even if I have a parking pass for them, then actually physically finding a parking space it's a challenge. And so, you know, they see that coming up to the University is a formidable obstacle, you're like you know am I going to get a ticket, am I going to get my car towed … so I think that sometime the faculty need to go where the community is" 6F_18W	1
	Relationships	"start with good relationships with the people in the community, and I think that really helps a lot" 4M_3M	1
	Translational research	"academics translate findings or knowledge to terms, language that the community are more familiar, taking into account this is particularly important when you are dealing with communities… and there is a trust between all the partners involved" 5M_8N	1
	Value on collaborations Structural (espoused values and beliefs)	"I think it's a priority, I think it varies by department, like so we have, and what I haven't mentioned is that social work it's kind of unique, so the school of social work is in our college, public health, so I do think that people believe that community partnerships are definitely of value" 2F_1M "people are you know proud to serve communities and community organizations in those ways when they can and proud to bring resources and bring programs … to organize people around certain issues and challenges, so I generally think it's very positive" 3F_20W "so I thing, I think faculty as a whole, I think are, I think feel comfortable doing this, and feel that they are supported, particularly if you are tenured anyways, getting, doing this kind of collaborative	4

Themes/Questions		Description/Quote	Files
		research” 2M_3M “I think we appreciate the, or we are always looking for opportunities to engage, to actively participate” 5M_8N	