

To Reduce Obesity Among Vulnerable Populations and
Improve Health Literacy as a Mechanism among Health Care Providers for
Behavior Change.

**Institute for Health Disparities Education,
Research and Technology**

Wichita State University President's Convergence Sciences Initiative

June 2020

Theme: *Health Disparities and Health Delivery*

(overlap with *Digital Transformation*)

Principal Investigator: Twyla J. Hill, PhD, Cluster Director

Co-PI's: Laila Cure, PhD; Nikki Keene Woods, PhD, MPH; Rhonda K. Lewis, PhD, MPH; Ajita Rattani,
PhD

Student Member: Deanna Carrithers

Sr. Advisor Cluster Co-Directors: Betty Smith-Campbell, PhD; Jan Twomey, PhD



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WICHITA STATE
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Wichita State University President’s Convergence Sciences Initiative

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- a. **Participating Investigators:** 4 Colleges and 8 different departments (Table 1 & [Appendix A](#) CVs)
- b. **Theme:** Health Disparities and Health Delivery (*overlap with digital transformation*)

Focus: To reduce **obesity among vulnerable populations** and improve health literacy as a mechanism among health care providers for behavior change. The **long-term goal** is to develop an institute to reduce health disparities through health literacy and technology through research and education.

Table 1. Participating Investigators

Role	Name	Department College	Expertise & Cluster Role Note: <i>All Female Research Team (two of which are from underrepresented minorities)</i>
PI Cluster Director	Dr. Twyla J. Hill	Professor, Sociology, Fairmount College of Liberal Arts & Sciences	Sociology of aging, families, law and public policy, research methods and statistics. Role: Budget and overall management, reporting, cluster sustainability
Co-PI	Dr. Laila Cure	Assistant Professor, Industrial, Systems, & Manufacturing Engineering, College of Engineering	Complex systems modeling and analysis, data analytics, data-driven decision support, healthcare systems engineering. Role: Model-based analysis of interventions for strategy development
Co-PI	Dr. Nikki Keene Woods	Associate Professor, Public Health Sciences, College of Health Professions	Health disparities, behavioral science, environmental health, health literacy, and women’s health across the lifespan. Role: Community-based participatory research & population health
Co-PI	Dr. Rhonda K. Lewis	Professor and Chair, Psychology, Fairmount College of Liberal Arts & Sciences	Adolescent health & development, reducing health disparities, community development & program evaluation Role: Community-based participatory research, Social Determinants of health expertise, prevention, community mobilization and community partnerships
Co-PI	Dr. Ajita Rattani	Assistant Professor, Electrical Engineering & Computer Science, College of Engineering	Artificial Intelligence, Machine Learning, Biometric Data Analysis and Deep Learning Role: Prediction modeling and analysis, Self-diagnostic facial analytics-based method for obesity prediction
Sr. Advisor Cluster Co- Director	Dr. Betty Smith-Campbell	Professor, School of Nursing, College of Health Professions	Nursing/Public Health: Policy and Access to care for Vulnerable populations; Social Determinants. Experience in developing and partnering with professional and community organizations. Role: advisory, cluster sustainability
Sr. Advisor Cluster Co- Director	Dr. Jan Twomey	Associate Dean of Engineering, College of Engineering	Machine learning, analytics, environmental impact and sustainability Role: advisory, cluster sustainability
Student Cluster Member	Deanna Carrithers	Doctoral Student in Educational Leadership, College of Applied Studies	Student interests: public-private partnerships, citizen engagement strategies, and diversity, equity and inclusion. Role: mentee, training in transdisciplinary research

c. Introduction, relevance, and need.

The impact of the current COVID-19 pandemic has highlighted the devastating impact of the social determinants of health. COVID-19 disproportionately affects African Americans and Hispanics. These vulnerable populations are more likely to be obese and are at a higher risk for severe illness with COVID-19 (Yancy, 2020; Centers for Disease Control [CDC, 2020; 2019). While COVID-19 is not the focus of this proposal, the disproportional impact is similar to another epidemic in the US, obesity.

Problem. Health disparities and differential access to health care often are related to social determinants of health (e.g., gender, race, ethnicity, socioeconomic status, sexual orientation, education, residency, health literacy) that have been historically linked to discrimination and unequal living circumstances such as education and wages. The *overall problem addressed* by this convergence cluster is the health and wellness of vulnerable populations due to health disparities through a transdisciplinary approach to research that seeks to determine the interactions between social determinants of health, individual physical attributes and behavior, and the larger societal context as they combine to impact health and promote wellness. The overall problem will be addressed through the *formation of an Institute* that will initiate its activities by undertaking the obesity epidemic in vulnerable populations. The transdisciplinary (convergence) approach described in this proposal will generate new knowledge – not within a single discipline nor by temporary relationships. The *three-year research objective* of this proposal is to apply the transdisciplinary research approach to affect the growing obesity epidemic in ethnic and racial minority populations ([Section D. Figure 2](#) and [Appendix C](#)). The *outcomes* include new intervention strategies for minority populations to improve obesity health literacy, as well as new approaches to modeling complex interrelationships among disparate forms of information. The transdisciplinary approach to health disparities provides the basis for new educational offerings and sustained growth in research activity.

Significance and Background. According to the National Institutes of Health (NIH), vulnerable populations are racial or ethnic minorities, children, elderly, socioeconomically disadvantaged, underinsured or those with certain medical conditions. Members of vulnerable populations have a greater risk of poor health related conditions. Overweight and obesity is a growing epidemic across the world and has been linked to the health disparities associated with the social determinants of health (SDOH). Obesity in adults can be defined as a body mass index (BMI) of greater than or equal to 30 and severe obesity as a BMI of greater than or equal to 40. (Hales, Carroll, Fryar & Ogden). From 1999–2000 through 2017–2018, the age-adjusted prevalence of obesity increased from 30.5% to 42.4%, and the prevalence of severe obesity increased from 4.7% to 9.2%. (Hales, et al, 2020). By 2030, several states will have obesity prevalence close to 60%, while the lowest states will be approaching 40%, and 24.2% will have severe obesity. The current obesity rate in Kansas is between 30-35%, with projections by 2030 of over 55% obese and more than 30% of Kansans will be severely obese (Hales, et al, 2020; Ward et al, 2019). A study of trends among today’s two-year old projected that nearly 60 percent of them will be clinically obese by the time they are 35 years of age (Ward et al, 2019). Lower life expectancy in the United States reflects, in large part, premature deaths related to higher rates of tobacco use and obesity. Among the 40 countries with the highest life expectancies worldwide, the United States fell from 20th in 1980 to 40th in 2015 (National Academies of Sciences, 2018). Health conditions related to obesity include heart disease, stroke, type 2 diabetes and some cancers, which are some of the leading causes of preventable death (CDC, 2020, Feb.).

The most recent report on obesity in the USA (Hales et al., 2020), described obesity health disparities as greater for women (severe obesity (11.5%) compared to men (6.9%), highest among non-Hispanic black (49.6%), followed by Hispanic (44.8%) adults, with non-Hispanic black adults having the highest prevalence of severe obesity (13.8%). Kansas’ obesity rate is over 35% for both non-Hispanic Black and Hispanics. According to Loring & Robertson (2014), “low socioeconomic groups appear to be around two times more likely to become obese” (p. 3). Obesity increases with less education. Adults without a

high school degree or equivalent had the highest self-reported obesity (35.0%), followed by high school graduates (33.1%), adults with some college (33.0%) and college graduates (24.7%) (Hales et al., 2020). Obesity is linked to numerous built environment characteristics (lack of green spaces, increased fast food restaurants, low walkability) (Suglia et al., 2016, p.206). Rates of severe obesity, by 2030, will be particularly pronounced among women (with a rate of 27.6%) and among both non-Hispanic black adults and low-income adults (at rates of 31.7% each) (Ward et al, 2019). Multiple disciplines are needed to predict obesity and develop individual as well as system (SDOH) interventions. Health literacy, “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions”, is another SDOH linked to poor health outcomes including obesity (Chari et al., 2013). Obesity interventions with a health literacy component are needed to address the identified health disparities (Kickbush, 2001).

Following a review of predictive modeling approaches for obesity, recommendations suggested a need to strengthen prediction modeling, as well as directed efforts towards machine learning-based hypothesis generation using large data sets and high-performing computing (Rautianinen & Ayramo, 2019). The Assistant Secretary of Health and Human Services (HHS) notes that SDOH are roadblocks in obesity prevention and treatment. HHS is working to support the study of SDOH Data to solve major health issues such as obesity (Health and Human Services, 2019). R. Holman, (Director of internal entrepreneurship at the HHS Innovation, Design, Entrepreneurship and Action (IDEA) Lab in the Office of the Chief Technology Officer) states digital strategies as a framework can be used to spur health literacy at HHS to bring what he called “entrepreneurial methodologies” that are often associated with Silicon Valley into HHS (National Academies of Sciences, 2015). The use of big data and health IT, individual, environmental and behavioral factors (i.e. SDOH) can influence health outcomes. Using data in these areas guided by a social and ecological framework of health ([Appendix B](#)) can provide the possibility of transforming our understanding of health and wellness for the benefit of all humanity (Sharp et al., 2016).

Need for Convergence Science. This convergence cluster proposal is closely aligned with that of the President of the National Academy of Medicine, Dr. Dzau, in Reimagining Population Health as Convergence Science. Social factors, individual behavior, and genetics and their interaction need to be investigated to determine health outcomes (Dzau & Balatbat, 2018). In 2017, over 100 scientists and leaders signed an open letter in Science titled: Convergence-the Future of Health, which called for investment in the infrastructure of education and science in all Federal funding agencies, including NIH (Sharp & Hockfield, 2017). The social disparities associated with the health of minority populations is a significant and complex health and societal challenge that requires the convergence of social, medical and digital technologies. A convergence science approach will generate new methods in preventing and treating conditions such as obesity not only at an individual level, but also at a system level that includes environmental and behavioral factors. Conditions like obesity result in increasing national healthcare expenditures. Without significant breakthroughs in early diagnosis that includes projections of future risk of obesity, prevention and interventions through lifestyle changes, plus novel lower-cost diagnoses and treatments—precisely what convergence research offers—these healthcare fiscal trends will continue to undermine our national competitiveness (Sharp et al., 2016, p.6). The transdisciplinary research will combine models from social science, health professions, and engineering to improve the ability to answer questions in diagnosis, prevention and intervention. This convergence science cluster will be unlike any other in the US. Approximately 20 research centers working on health disparities exist nationwide, none of which include engineering faculty, usually housed in schools of medicine or health professions, and are not truly transdisciplinary.

d. Research Cluster

To reduce obesity among vulnerable populations and improve health literacy as a mechanism among health care providers for behavior change. The long-term goal is to develop an institute to reduce health disparities through health literacy and technology through research and education.

General Approach/ Framework to Achieve Cluster Goals: As stated in [Section C](#), the *long-term goal* of this transdisciplinary cluster is to conduct basic and applied research to understand the complex interrelationships and impacts of social determinants in creating health disparities in minority individuals, communities, and populations, and to mitigate those impacts through new innovative approaches to improve health literacy combined with digital technologies. The overall goal can only be achieved through a qualified transdisciplinary core team of investigators from Engineering, Health Professions, and Liberal Arts and Sciences ([Section A](#), [Appendix A CVs](#), [Appendix C Research Plan](#)). In addition to basic and applied research the overall goal will be met by: the creation of new educational opportunities for a future healthcare workforce and for existing healthcare providers ([Section G](#)); the expansion of cluster core team capacity through the formation of a multidisciplinary network of collaborators made up of researchers and stakeholders (Figure 1 and [Appendix D – G](#)); and a plan to sustain cluster efforts through a schedule of targeted proposals to federal agencies and foundations ([Section H](#)), and regular mentoring of junior investigators and graduate students to conduct research in health disparities, health literacy and digital technologies. The framework for the research cluster is motivated by two seminal publications: National Academies of Sciences, Engineering and Medicine report titled Integrating Social Care into the Delivery of Health Care: Moving Upstream to Improve the Nations’ Health (2019) and Reimagining Population Health As Convergence Science, co-authored by the President of the National Academy of Medicine, Dr. Dzau (Dzau & Balatbat, 2018).

The *three-year goal* is to apply above framework to reduce obesity among vulnerable populations (Figure 2 and [Appendix C Research Plan](#)). There are three phases to meet the three-year goal. The transdisciplinary research approach will integrate multiple factors of social determinants information with standard and clinical obesity measures through new combination of statistical and machine learning methods to predict obesity and risk (individual, community and population) over time. New methods and techniques will be applied to those models to identify significant relationships between obesity and social determinants, and obesity protective factors. Formative research methods will be used to improve prediction and risk accuracy and verify significant interrelationships among variables. The new information and knowledge generated will be used to create new health literacy-based intervention and prevention strategies and new forms of digitized information for affected individuals, community, populations, and policy makers. A novel immersive Ulrich exhibit will be created as a means of educating various stakeholders. Finally, a strategic planning meeting with the research and stakeholder network of collaborators will be held to determine future Institute directions. New funding will be sought to support the Ulrich exhibit and strategic planning meeting.

History of Previous Collaboration and Evidence of Funding: The team has published over 201 collaborative publications and been awarded over \$15 million in funding ([Table 3 Section E](#)). Additionally, the group has received 59 awards and presented findings 468 times.

Opportunity for New Partnerships: The cluster has secured both internal and external partners to begin Phase I of the research plan (Figure 1). This large network of cluster members creates an opportunity for many new partnerships including KBOR and innovation/industrial partners across the proposed 3 phases of the research plan ([Appendix C](#)).

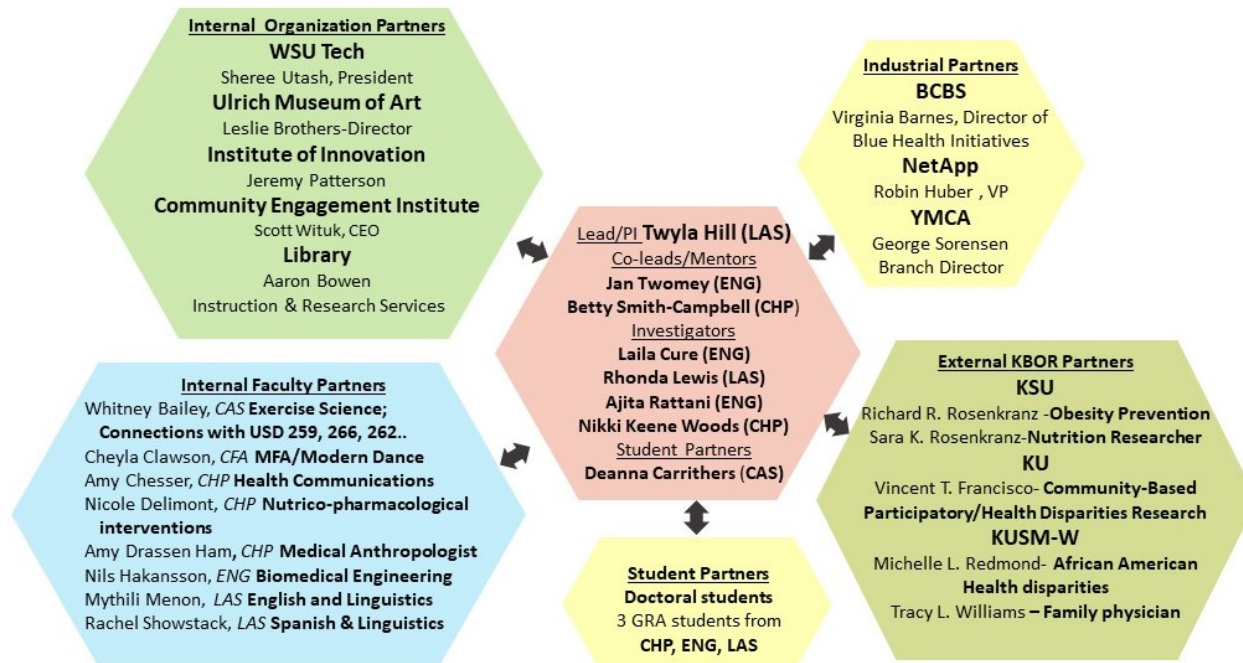


Figure 1. Organizational Chart of Core Team and Network of Collaborators ([Appendix D-G](#))

Opportunity for Mentorship in Grant Writing: Mentorship is a key component of the cluster’s organizational plan. Mentoring began from the first proposal meeting as junior and senior faculty began drafting plans for the research cluster. A student member also joined the planning team. Continued mentorship is planned through each research phase through the diverse research cluster’s collaboration. Additionally, the team has experience in mentoring over 90 masters and doctoral students ([Section E](#)).

Cluster Core Team Investigators Profile: The core team of PI, Co-PI’s, and senior advisors are well positioned to successfully achieve cluster goals by having the necessary expertise in - (Hill) sociology of aging, families and public policy; (Keene Woods) health literacy and collaborative community development; (Lewis) public health and prevention intervention; (Cure) data analytics and healthcare services; (Rattani) machine learning, deep learning applied to biometrics and smart health; (Twomey) machine learning, and research program development; and (Smith-Campbell) development and partnerships in health with professional and community organizations. The formation of this team of cluster investigators was intentional: all are passionate about improving the health of minority health populations, all have strong or growing research track records, all have unique expertise necessary to address the overall problem, and most notably, all are female faculty (two of which are from underrepresented minority groups). The combined expertise will lead to new research discoveries and revolutionary advances. The transdisciplinary nature of the team will provide more opportunities to secure external funding than the usual effort of a single discipline. Detailed information regarding the core teams’ qualifications are provided in two-page CVs ([Appendix A](#)).

Cluster Infrastructure: The proposed research will be conducted using existing computer facilities - Health Systems Engineering Laboratory located at the Engineering Building #203A, the Integrated Vision and Biometrics Lab in Wallace Hall #325, the Applied Psychology Research Institute, Social Science Research Lab in Lindquist 429, the Sociology Graduate Lab Lindquist 406, and the Ulrich Museum exhibition space. However, dedicated cluster research, meeting, and education lab space located on the WSU campus is required to facilitate the success of cluster goals. As the core team and research goals expand, additional equipment and infrastructure will be funded through external and internal proposals.

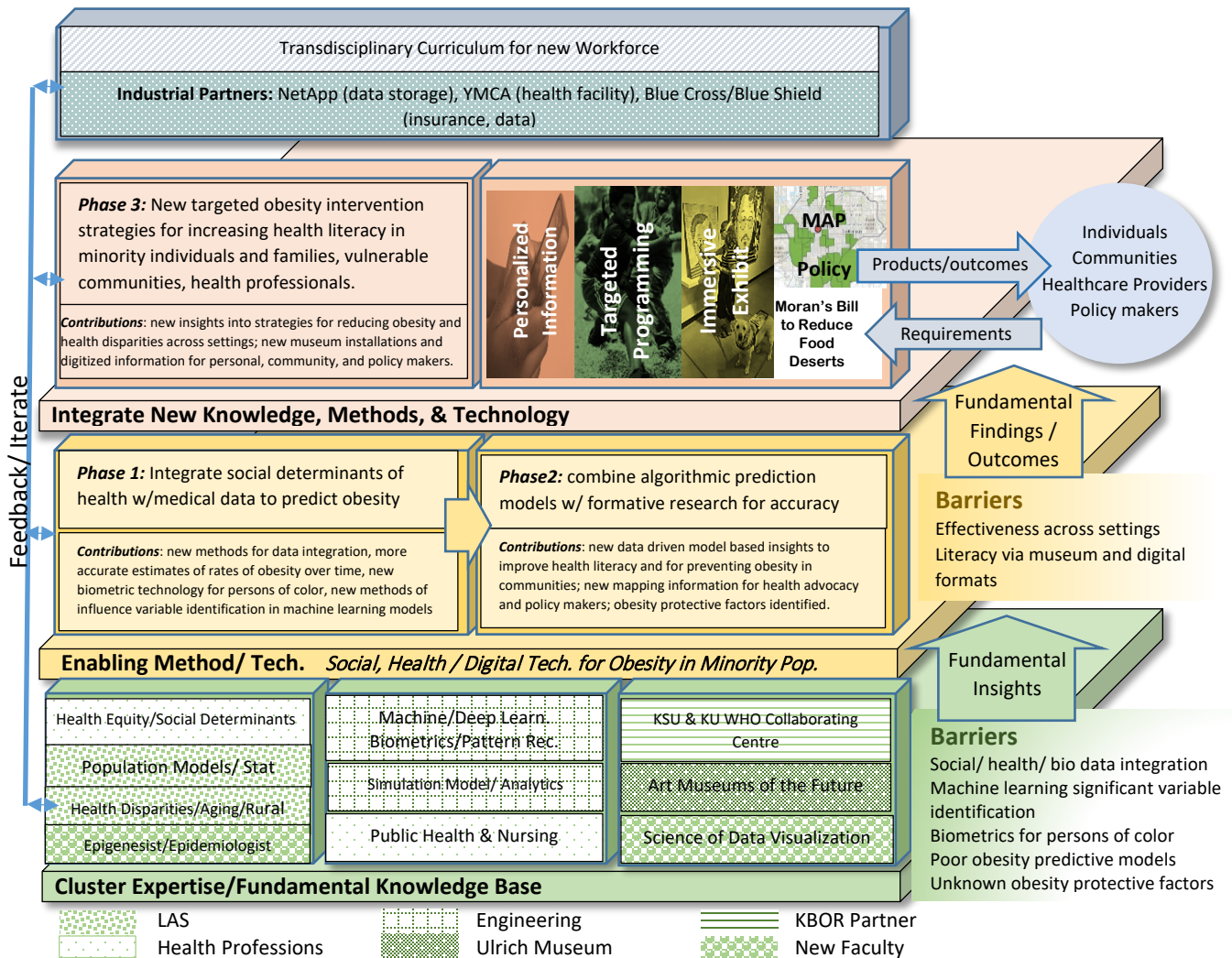


Figure 2. Framework applied to Obesity. Diagram illustrates the framework as it applied to meet **three-year research objective**. It shows the progression of knowledge, origins and how knowledge is combined to overcome barriers in the three phases of research. Details are provided [Appendix C](#). This framework is the basis for expanding the Institute’s basic/applied research plans to address other significant health disparities issues; such as - the disproportionate impact of climate change on vulnerable populations.

Organizational and Cluster Management Plan: PI Hill is responsible for the overall project management that includes ensuring of project schedule of completion (Table 5. [Section H](#)), holding twice monthly core team meetings, quarterly meetings with network of collaborators, and monitoring of the budget. Phase 1 and 2 of research has two leads and Phase 3, one lead. Phase leads have the responsibility for the completion of phase research, scheduling additional research meetings as necessary, and to transfer research findings to the next phase. Phase leads will report progress at core team meetings and quarterly network meetings. The two co-leads are primarily responsible for mentoring the core team. They will attend the majority of core team meetings and all quarterly network meetings. Co-lead cluster Twomey will be the liaison with the Ulrich museum and assist in planning the immersive exhibit. All core team members will participate in all institute meetings, sustainability activities ([Section H](#)), curriculum development activities, and graduate student mentoring activities.

e. Budget justification and return on investment.

Complete proposed budget in [Appendix H](#)

1. **Senior Personnel - \$52,163** (All senior personnel fringes are calculated at 18.379% of salary per Wichita State's approved rates.)

Dr. Twyla Hill, PI and Co-Project Director (\$10,494): Dr. Hill is budgeted for 0.90 FTE of one summer month in year one of the project. She will be responsible for the overall management of the project; including planning and holding regular research, education and sustainability meetings with core team, planning and holding quarterly network collaborator meetings (internal, external and industry collaborators), budget and reporting. She will also participate in all aspects of research, graduate student mentorship, and junior faculty mentorship. She is the co-lead for Phase 1.

Dr. Laila Cure, Co-PI (\$10,053): Dr. Cure is budgeted for 0.90 FTE of one summer month in year two of the project. She will be responsible for predictive modeling and simulation aspects of research, mentoring of graduate students, grant writing, publications, and presentations. She is the co-lead of Phase 2.

Dr. Nikki Keene Woods, Co-PI and Co-Project Director (\$8,015): Dr. Keene Woods is budgeted for 0.90 FTE of one summer month in year two of the project. She will be responsible for all aspects related to health literacy research, conducting assessments and collecting community and healthcare professional data. She will also mentor graduate students, and participate in grant writing, present at conference presentations and writing papers. She is the co-lead for Phase 2.

Dr. Ajita Rattani, Co-PI (\$9,784): Dr. Rattani is budgeted for 0.90 FTE of one summer month in year one and year three of the project. She will be responsible for creating technology (Artificial Intelligence and Machine Learning) to help address the problem of obesity and improve health literacy among vulnerable populations. She will be responsible for grant writing, presenting at conferences and writing publications. She is the co-lead for Phase 1.

Dr. Rhonda Lewis, Co-PI (\$13,817): Dr. Lewis is budgeted for 1.35 FTE of one summer month in year three of the project. She will be responsible for conducting the program evaluation and implementing the preventive intervention designed by the research team in the community. She will be responsible for graduate student mentoring, junior faculty mentoring, grant writing, conducting critical reviews of literature, paper management, and writing publications. She is the lead for Phase 3.

2. Other Personnel - \$158,280

Graduate Students: Three graduate students (GRA) are budgeted at 0.50 FTE during the academic years and summer in all three years. The rate is \$15.02/hour including an annual 3% COLA. The GRAs will participate in all aspects of research, including hypothesis generation, critical analyses of literature, study design, data cleaning, collection and analysis, reporting, presentation of results, and writing scientific publications. GRA's will actively participate in all cluster meetings. The GRAs' fringes are calculated at 1.1% plus \$1,277/year in insurance including an annual 3% COLA.

3. **Equipment - \$0** None budgeted

4. **Travel - \$18,000**

Core team members will travel to meet with federal and foundation program offices, national conferences to network, present and disseminate the research findings: three trips per year (airfare, hotel, conference registration) are included (\$2000 x 3 per year).

Participation Support Costs - \$0 None budgeted

5. **Supplies - \$0** None budgeted
6. **Contractors - \$0** None budgeted
7. **Subrecipients - \$0** None budgeted
8. **Other Expenses - \$71,090**
9. **Tuition Remission:** In accordance with WSU policy, funds are budgeted for 18 credit hours for each GRA each year. The tuition is calculated at \$433.57 per credit hour for the GRA in Engineering and \$383.57 for the other two colleges and includes an annual 3% COLA.
10. **Project End Workshop:** \$2,145 is budgeted for seed money for a Strategic Planning Workshop at the end of the three years.
11. **Direct Costs - \$300,000**
12. **Indirect Cost - \$0** Internal award, none budgeted.
13. **Total Costs - \$300,000**

Return on Investment

As shown by Table 2, the team already has been very productive. For this convergence cluster, the group will have measurable results in the fiscal, stake holder, innovation and learning, and knowledge and societal impacts project spheres (based on Preuss, 2016) (Table 3).

Table 2. Research Accomplishments Table (to-date)

Publications (Impact)	Grants (Impact)	Students Supervised (Masters/PhD) (Innovation and Learning and Student Enrollment and Retainment)	Awards (Recognition)	Presentations (Impact)	Diverse Fields Represented (Public Health, Machine Learning, Data Analytics, Health Literacy, Social Determinants of Health) (Convergence)
201	\$15,160,995	90	59	468	7

Table 3. Plan for Key Impact Indicators

Outputs and Impact	Year 1	Year 2	Year 3
Publications (Knowledge Impact)	3 (submitted)	3 (submitted)	3 (submitted)
External Funding Proposals (Fiscal, Stakeholder)	3 (submitted) WSU Regional Institute on Aging (25K), the Blue Cross Blue Shield Foundation (20K), the Kansas Health Foundation (25K),	3 (submitted) Wichita Community Foundation (25-125,000), and The Obesity Society (25K). NSF Convergence Science	3 (submitted) National Institute on Minority Health and Health Disparities (NIMHD); Robert Wood Johnson Foundation, DHHS, NIH, NSF, and the Patient Centered Outcomes Research Institute (PCORI)
Curriculum (Innovation and Learning)	Undergraduate/Graduate Certificates Proposed	BS in Public Health Engineering	Transdisciplinary PhD

Student enrollment & retainment (Innovation and Learning)	3 graduate students supported; expected increased student retainment from participation in transdisciplinary cluster	3 graduate students supported, additional students supported through external funding, new enrollment in new BS degree program	3 graduate students supported, additional students supported through external funding, new enrollment in new PhD degree program
Benefit to economy of Wichita and Kansas (Knowledge and Societal Impact)	New research cluster network of experts engaged to address obesity and other health disparities	Health literacy intervention strategies developed and distributed	Health literacy intervention strategies developed and distributed, Community-based participatory research, and system-level strategies to address health disparities
Promotion of WSU (Fiscal, Stakeholder)	Partnership with Industry partner Net App & industry networks	Partnership with Industry partner BCBS & industry networks	External funding and established health disparities research cluster; Industry partners YMCA & Ulrich
Expansion of Cluster (Knowledge and Societal Impact)	New partnerships developed through cluster members	Additional faculty member hired	External funding obtained

Access to External Funding (see [Table 5. Timeline for funding Section H](#))

Phase I of the research plan will be completed in year one. (Timeline [section H](#)). The outcomes of Phase 1 will be used as an evidence of successful collaboration and preliminary results for year 2 proposals. In addition to this timeline, the cluster will also apply for emerging grant opportunities as they arise. For example, the cluster plans to apply for the Robert Wood Johnson Foundation’s open opportunity for Pioneering Ideas to Build a Culture of Health in fall 2020 and the WW Karen Miller-Kovach Research Grant on the development of a scalable, behavioral weight-loss intervention techniques in fall 2020. The team will include the expertise and support of the network of collaborators as needed in all proposal applications.

The unique combination of core team faculty and graduate students, together with its multidisciplinary network of internal faculty, KBOR faculty, and industry representatives from NetApp, the YMCA, and Blue Cross Blue Shield, will generate novel solutions to health, new synergistic programs within the Kansas Regent Universities, expanded opportunities for training and mentoring students and faculty. The transdisciplinary collaboration will enrich the student experience by providing a truly transdisciplinary education and unique opportunities to affect population health. The new programs will create increased credit hours and attract a new population of students. The Ulrich exhibit will increase the visibility and impact of the research across the campus and wider community.

List of External Funding Sources: Possible funders are the National Institute on Minority Health and Health Disparities (NIMHD), the Robert Wood Johnson Foundation (RWJF), DHHS, NIH, NSF, the Patient Centered Outcomes Research Institute (PCORI), Wichita Community Foundation, the Obesity Society, and National Science Foundation (NSF) Convergence Science (see Table 3 above).

f. Identified gaps in expertise.

Additional faculty members in tenure-track positions will expand the capacity of the institute to seek external funding and increase opportunities for new knowledge and societal impact.

Epidemiologist with expertise in externally funded health disparities research. The faculty member could be from a combination of several fields including engineering, humanities, medical anthropology, nursing, psychology, public health (epidemiology and biostatistics), and sociology. An epidemiologist with a specialty in underserved populations could be housed in nursing and public health (Health Professions) or psychology and sociology (Liberal Arts and Sciences), or Engineering. This hire would fill an identified gap as WSU lacks faculty with advanced expertise in epidemiology. Also, the additional hire would add long-term value by increasing funding competitiveness.

Epigeneticist or Biomarkers Scientist. Biomarkers, which show the effects of social factors and environments on biology, are a useful tool for social and physical science research. Biomarkers can be underlying risk factors or intermediate variables affecting health outcomes. A specialist in biomarkers or epigenetics could be hired in sociology, psychology, biology, or chemistry (Liberal Arts and Sciences), public health (Health Professions), or biomedical engineering. WSU does not currently have any faculty who specialize in the analysis of biomarkers. This hire would increase funding competitiveness and knowledge impact as it would add another dimension to research possibilities.

Data Visualization Scientist. WSU has several data analytics/data science initiatives underway. None have a data visualization scientist. Data visualization scientists combine aspects of statistics, computer science, applied mathematics and visualization to turn vast amounts of data into new insights and new knowledge. Visualization enables sense-making, discovery and communication. Visual data scientists conduct research to understand how people use visualizations to gain insight, and design principles and techniques for effective visual analysis systems. New faculty in data visualization science could be housed in statistics, computer science, sociology, human factors (Liberal Arts and Sciences), industrial engineering, and public health (Health Professions). A hire in this area would increase the clusters' ability to translate research findings into community impacts, as well as increasing funding competitiveness.

g. Curricular implications.

This convergence science cluster would create the opportunity to develop programs unlike any others in the US. The institute would attract a new population of students interested in these fields and would educate them for a new workforce, meeting the developing needs of health care. About 20 research centers working on health disparities exist nationwide, none of which include engineering faculty. Most of the existing centers are housed in schools of medicine or health professions and are not truly transdisciplinary. By combining social science, health professions, and engineering, the institute will provide students with a transdisciplinary education and unique opportunities to affect population health. Therefore, programs created by this institute would attract students nationwide. Also, Health Professions and Data Science are predicted to be among the fastest growing employment fields, so students should gravitate to these programs. [Appendix I](#) contains specific information regarding pay and predicted job growth for occupations students would enter.

This proposal has a high likelihood to increase female students in Engineering and provide mentorship for female students in all three colleges because program leaders are all female. The project should increase the pipeline of women and underrepresented minorities into these fields as funding for undergraduate and graduate research assistants will be included on grant applications. The opportunity for funding will attract students to the programs and working as research assistants will provide them with applied learning experiences. As Health Professions, Engineering, and Social Sciences already emphasize practical applications of coursework, hands-on assignments will be an important part of the new classes.

Table 4. Curriculum Development Timeline

Timeline	Target	Courses/Programs	Colleges
Phase 1-Year 1	Undergraduate Certificate	Health Literacy	ENG, LAS, HP
Phase 1-Year 1	Graduate Certificate	Health Data Analytics	ENG, LAS, HP
Phase 2-Year 2	BS	Public Health Engineering	ENG, LAS, HP
Phase 3-Year 3	Graduate Program	Transdisciplinary PhD	ENG, LAS, HP, III, CAS

In **Phase 1** the team would develop an undergraduate certificate program in health literacy and a graduate certificate program in health data analytics using courses that are already being taught from all three colleges. These programs would use cafeteria plans, where students would have choices from a list of electives but would have to take courses from different colleges as part of the requirements ([Appendix I](#)). During **Phase 2** an interdisciplinary BS in Public Health Engineering will be created. This degree primarily would use classes that are already being taught, but team-taught interdisciplinary core courses would be developed to bolster the convergence science aspect as well as a health literacy specific course. These courses would ensure students would put convergence into practice and be culturally competent. In **Phase 3** the team will develop a transdisciplinary PhD graduate program which would combine new courses with those already being taught. The group hopes to partner with the Institute for Interdisciplinary Innovation (III) and the College of Applied Studies at this stage. Other future curriculum potentials include working with WSU Tech to develop a certificate or minor in health delivery simulation, and CEU courses in health literacy, technological service delivery, and other aspects of public health engineering that would attract people already in the field.

h. Sustainability and impact.

This convergence cluster will address obesity and other health disparities of vulnerable populations through a transdisciplinary approach to research that seeks to determine the interaction between social determinants of health, biomarkers, individual physical attributes and behavior, and the larger societal context as they combine to impact health and promote wellness. The cluster will have measurable results in the fiscal, stake holder, innovation and learning, and knowledge and societal impacts project spheres during those three years. (See Table 5. Timeline of Projected Work/Management Plan below).

Year 1. In the first three months, the team will seek out internal and external funders to address the obesity and health literacy problems. Possible funders are the WSU Regional Institute on Aging, the Blue Cross Blue Shield Foundation, and the Kansas Health Foundation. Additionally, the group will locate existing datasets for analysis and combination. In the second three months, proposals will be submitted, and the team will work with program officers to identify what requests for proposals are being released. The cluster will submit a review article identifying gaps in the literature and existing data sources. During the next six months, the group will develop community connections for dialogues and community based participatory research (CBPR), submit articles using existing data, and write proposals for the undergraduate and graduate certificates. Fiscal purposes will be met by the grant applications, while the curriculum proposals will address the innovation and learning purposes. Developing community connections will increase the stakeholders and the state and local impact of the project. Writing articles will impact the fields of investigation.

Year 2. During this year, the cluster will combine the disparate data sets for creation of more complex models using social and ecological factors for individual, community, and population levels. The team will submit articles based on these analyses. The group will write grant proposals for the collection of data that does not exist yet (i.e., facial recognition) along with other external grants. Possible funders are the Wichita Community Foundation, The Obesity Society, and the NSF Convergence Science program. The team will develop health literacy intervention strategies and create the proposal for the BA/BS in Public Health Engineering. The group plans to host a conference with our KBOR partners to share research findings; we would apply for PCORI conference grant funding. The health literacy intervention strategies will affect society and writing articles will impact the fields of investigation. Fiscal purposes will be met by the grant applications, while the curriculum proposal will address innovation and learning purposes.

Year 3. The team will continue submitting articles and applying for funding during the third year, particularly for translational studies and CBPR. Possible funders are the National Institute on Minority Health and Health Disparities (NIMHD), the Robert Wood Johnson Foundation, DHHS, NIH, NSF, and the Patient Centered Outcomes Research Institute (PCORI). The efficacy of the health literacy intervention strategies will be evaluated. Additionally, the cluster will develop a partnership with the Ulrich Museum to create interactive health literacy exhibits. The team will work with the Institute for Interdisciplinary Innovation and the College of Applied Studies as we create a transdisciplinary PhD program. The group would also begin developing applications for personal devices, and possibly telehealth and telemedicine applications (see ROI [Section E](#)). At the end of the third year, the group will have a strategic planning meeting to compile what has been learned over the past three years and create a plan to move forward with research and identify additional funding streams. Fiscal purposes will be met by the software applications and the grant submissions. The curriculum proposal and museum exhibits will address the innovation and learning purposes. Partnerships with the Ulrich and other campus units will increase the stakeholders and the community impact of the project. Writing articles will impact the fields of investigation.

Throughout the timeline, the cluster would emphasize mentorship of junior female faculty by senior female faculty with experience in research funding, administration, and faculty service. Since funding for undergraduate and graduate research assistants will be included on grant applications, the project should increase the pipeline of women and underrepresented minorities into these fields.

Past the first three years the team sees the potential for working on other aspects of health issues and expanding the group to include other faculty across WSU. The team will expand the mentorship piece to include postdocs. Also, the group envisions working with WSU Tech to develop other certificates or minors, creating CEU courses, and creating workshops and/or conferences. The hiring of additional faculty members to the cluster would expand the capacity of the group to seek external funding and to increase curricular offerings. Because this convergence science center would be unique in the US, it has the potential to attract interest, funding, and students from across the country.

Table 5. Timeline of Projected Work / Management Plan

PROJECT ACTIVITIES: Leads	8/1/2020 -7/31/2023											
	Quarters (months)											
	8-10	11-1	2-4 (2021)	5-7	8-10	11-1	2-4 (2022)	5-7	8-10	11-1	2-4 (2023)	5-7
Phase 1: Hill/Rattani												
Identify Funding Sources	X											
Hire Students	X											
Obtain Data for Phase I	X											
Submit Review Article on Gaps		X										
CBPR – Community development		X	X									
Propose Undergraduate and Graduate Certificates			X	X								
Apply for External Funding		X	X	X								
Phase 2: Keene Woods/Cure												
Combine Phase I Data sets					X	X						
Create Phase I Data models						X	X					
Grant Writing for missing data							X	X				
Develop Health Literacy Intervention Strategies							X	X				
Develop BS in PH Engineering proposal							X	X				
Regional KBOR Conference								X				
Manuscript writing and submission							X	X				
Apply for external funding							X	X				
Phase 3: Lewis												
Ulrich Exhibit								X				
CBPR- Program evaluation								X	X			
Develop Graduate Program									X			
Develop Applications for Personal Devices, Telehealth											X	
Apply for external funding									X	X		X
Manuscript writing and submission											X	X
Institute Strategic Planning Meeting												X
Key:												
Education	Research								Sustainability			

i. Intra-KBOR collaboration.

University of Kansas, Lawrence, KS ([link to Letter of Support – Appendix D](#))

Vincent Francisco, PhD; Director, Center for Community Health and Development.

Role: Research cluster member, share research results and collaborate on future funding opportunities.

Expertise: Dr. Francisco is a population health applied behavioral scientist and Director of the WHO Collaborating Centre KU Center for Community Health and Development. He has internal experience in health disparities research and national funding from NIH. Partnership with Dr. Francisco can help the team prepare for international partnerships and external funding.

Facilities: Group has developed widely used capabilities for community-based participatory research and for building capacity for community work, including through the Community Tool Box and the Community Check Box.

Gap: Partnership with the KU Center for Community Health and Development will add experience in international community-based research as a World Health Organization Collaborating Centre, and access to online the Community Tool Box and Check Box resources to support future research.

Kansas State University, Manhattan, KS ([link to Letter of Support](#))

Sara Rosenkranz, PhD. Associate Professor in the Department of Food, Nutrition, Dietetics and Health and member of the Physical Activity and Nutrition Clinical Research Consortium (PAN-CRC). She holds degrees in Psychology, (BA); Kinesiology (MS), and Food, Nutrition, Dietetics and Health (PhD).

Role: Research cluster member, share research results and collaborate on future funding opportunities.

Expertise: Dr. Rosenkranz's research focuses on the influence of obesity, dietary intake, physical activity, and sedentary behavior on cardiovascular and metabolic clinical health outcomes. She is the Executive Committee Chair of the Physical Activity and Nutrition-Clinical Research Consortium at Kansas State University. Previously, she has worked with WSU internal nursing partner Nicole Delimont. PhD, APRN-FNP.

Facilities: KSU Physical Activity Intervention Research Laboratory (PAIR Lab) is to develop and deliver interventions to promote physical activity and reduce sedentary behavior in a variety of populations.

Gap: Partnership with Dr. Rosenkranz's research in the area of women and physical activity and diet; as well as national studies on nutritional quality of food will add strength to the research teams focus on women as a vulnerable population related to obesity. The PAIR lab has the potential for collaborative studies to examine the social and psychological factors that influence physical activity participation.

Kansas State University, Manhattan, KS ([link to Letter of Support](#))

Richard Rosenkranz, PhD. Professor in the Department of Food, Nutrition, Dietetics and Health and Faculty Scientist in the Johnson Cancer Research Center. He holds degrees in Human Development & Family Life, Psychology, (BA); Clinical Psychology (MA), Kinesiology (MS) Food, Nutrition, Dietetics and Health (PhD) and a Graduate Certificate in Public Health.

Role: Research cluster member, share research results and collaborate on future funding opportunities.

Expertise: Dr. Rosenkranz's areas of specialization include: Childhood obesity prevention; Physical activity & healthful eating; Settings-based health promotion. Cardiovascular and metabolic outcomes; Interactions between obesity, nutrition, and physical activity/sedentary behavior; Physical activity and dietary nutrition interventions; Effects of dietary components on postprandial metabolism; Dietary quality for chronic disease prevention. He has conducted research with WSU internal partner Nicole Delimont. PhD, APRN-FNP.

Facilities: Link to KSU Johnson Cancer Research Center's that conducts basic and translational cancer research that leads to improved prevention, diagnostics and treatments using a multidisciplinary team approach.

Gap: Dr. Rosenkranz's research and expertise can help the team link behavioral science, public health nutrition, and physical activity. This multi-disciplinary approach can help identify modifiable influences and person-environment interactions to develop, implement, and evaluate interventions designed to impact the influences on health behaviors.

University of Kansas School of Medicine – Wichita, Department of Family and Community Medicine ([link to Letter of Support](#))

Tracy Williams, MD, Department of Family and Community Medicine, Via Christi Family Medicine

Role: Research cluster member, share research results and collaborate on future funding opportunities.

Expertise: Dr. Williams is a family physician at Via Christi Family Medicine and faculty member in the Department of Family and Community Medicine. She has experience in clinical research in women's health, health literacy, and health disparities and can help the team connect with patient populations.

Facilities: The Department of Family and Community Medicine educates medical students and residents through two residency programs.

Gap: Partnership with clinical programs will provide the research cluster with access to direct patient care settings, potential research participants, and historical clinical data for future research projects.

University of Kansas School of Medicine – Wichita, Department of Population Health ([letter of support](#))

Michelle Redmond, PhD, Department of Population Health

Role: Research cluster member, share research results and collaborate on future funding opportunities.

Expertise: currently has a NIH K-Award on Diabetes, expertise in health disparities research.

Gap: Partnership with Dr. Redmond can help the team prepare for NIH funding and connect with other clinical sites.

j. Innovation campus involvement.

NetApp - NetApp is a global leader in hybrid cloud data services and is particularly interested in participating in this effort to utilize resulting new data science methods for integrating very large disparate data through new sophisticated data mining, machine learning and statistical methods to create prediction models, new methods to identify significant inputs to machine learning models, and new biometrics for persons of color. NetApp is also committed to advancing women in technology and recruiting students graduating with cross disciplinary skills in data analytics and healthcare.

WSU YMCA - The support of the Steve Clark YMCA on the WSU innovation campus brings dozens of community and partner program sites which are places where the community comes together to connect, play, and discover new things. They offer comprehensive healthy living and learning experiences for adults and kids, from fitness equipment and team sports and low-cost and/or free after school programs for area youth. They are a community dedicated to empowering our larger community. A future partnership with the WSU research cluster is an exciting new extension of their current programs.

***Blue Cross Blue Shield of Kansas** – As Kansas' largest and local health insurer, Blue Cross and Blue Shield of Kansas (BCBSKS) recognizes its unique position to work with Kansas communities to establish and sustain healthy environments and lifestyles. To shape a healthier future for Kansas, BCBSKS launched Blue Health Initiatives in 2016 to support communities in developing enduring solutions for our state's health challenges. The partnership with BCBS brings expertise from an industry partner with a focus on population health. Blue Health Initiatives has a history of supporting research-based solutions that make Kansas a healthier place to live, work and play.

* BCBSKS is not currently located on the WSU Innovation Campus. However, a positive and successful experience working with this Convergence Team holds the potential to create an office on campus.

(Letters of Support [Appendix E](#))

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A. Research Cluster Core Team Biographical Sketches

Core Research Cluster Members

- Dr. Twyla J. Hill, PI, Cluster Director
- Dr. Laila Cure, Co-PI
- Dr. Nikki Keene Woods, Co-PI
- Dr. Rhonda K. Lewis, Co-PI
- Dr. Ajita Rattani, Co-PI
- Deanna Carrithers, Student Member
- Dr. Betty Smith-Campbell, Sr. Advisor Cluster Co-Director
- Dr. Jan Twomey, Sr. Advisor Cluster Co-Director

Table 2. Research Accomplishments Table (to-date)

Publications (Impact)	Grants (Impact)	Students Supervised (Masters/PhD) (Innovation and Learning and Student Enrollment and Retention)	Awards (Recognition)	Presentations (Impact)	Diverse Fields Represented (Public Health, Machine Learning, Data Analytics, Health Literacy, Social Determinants of Health) (Convergence)
201	\$15,160,995	90	59	468	7

Biographical Sketch: Twyla J. Hill, PhD

Professor, Sociology Department; Fairmount College of Liberal Arts and Sciences, Wichita State University; 316-978-7151; twyla.hill@wichita.edu

Professional Preparation

California State University, Dominguez Hills	Civilizations	BA
1986		
University of California, Irvine	Social Sciences (Program in Social Relations)	MA
1993		
University of California, Irvine	Social Sciences (Program in Social Relations)	PhD
1998		

Appointments

2011-Present	Professor, Sociology Department, Wichita State University
2009-2015	Graduate Coordinator, Sociology Department, Wichita State University
2004-2011	Associate Professor, Sociology Department, Wichita State University
1998-2004	Assistant Professor, Sociology Department, Wichita State University

Awards Related to Health Disparities and Data Analytics

1. Visual Testing of a Web-based Social-Cognitive Sexual Counseling Intervention; E.E. Steinke PI, Clifford Wayne Gaultier Memorial Fund; 2013, \$4,267.
2. Why Doesn't Anyone Help? A Comparison of Disabled Elderly With and Without Informal Caregivers; T.J. Hill PI, Wichita State University Fairmount College of Liberal Arts and Sciences Summer Support Fellowship; 2012, \$4,000.
3. Project Nourish; C. Wasson, Project Coordinator, Kansas Children's Cabinet and Trust Fund; 2004-2005, \$2,000.
4. Senior Children Caregivers: Older Adult Children Caring for Their Parents; T.J. Hill PI, Wichita State University Office of Research Administration, University Research/Creative Projects Award; 2003-2004, \$4,500.
5. Timing of Social Service Events on Women's Drug Recovery; C.A. Lewandowski PI August 2002 – April 2004, T.J. Hill PI May - August 2004, National Institute on Drug Abuse; 2002-2004, \$146,000.
6. The Rainbows Model: Developing a Data/Evidenced Based Comprehensive Approach to Early Intervention for Children (0-60mo.) with Special Needs; B. MacPherson, Project Director, U.S. Department of Education; 2002-2003, \$35,000.

Selected Recent Publications Related to Health Disparities and Data Analytics

1. Dusenbury, Wendy, Twyla J. Hill, Victoria Mosack, and Elaine E. Steinke. (2019) "Risk factors, depression, and drugs, influencing sexual activity in individuals with and without stroke". Rehabilitation Nursing, 45(1):23-29.
2. Mosack, Victoria, Twyla J. Hill, and Elaine E. Steinke. (2018) "Depression, Quality of Life, Physical Activity, and the Impact of Drugs on Sexual Activity in a Population-Based Sample". Issues in Mental Health Nursing, 39(6):527-532.
3. Steinke, Elaine E., Victoria Mosack, and Twyla J. Hill. (2018) "The Influence of Comorbidities, Risk Factors, and Medications on Sexual Activity in Individuals Aged 40-59 Years With and Without Cardiac Conditions: U.S. National Health and Nutrition Examination Survey, 2011-2012". Journal of Cardiovascular Nursing, 33(2):118-125.
4. Mosack, Victoria, Elaine E. Steinke, and Twyla J. Hill. (2017) "Predictors of Change in Sexual Activity after Cardiac Diagnosis: Elements to Inform Sexual Counseling". Journal of Health Psychology, 22(7):925-931

5. Steinke, Elaine E., Susan Barnason, Victoria Mosack, and Twyla J. Hill. (2016) "Baccalaureate Nursing Students' Application of Social-Cognitive Sexual Counseling for Cardiovascular Patients: A Web-Based Educational Intervention". Nurse Education Today, 44:43-50.
6. Steinke, Elaine E., Twyla J. Hill, and Victoria Mosack. (2016) "Medication Use and Predictors of Sexual Activity in Men and Women with CVD". Journal of the American Association of Nurse Practitioners, 28:91-97.
7. Steinke, Elaine E., Victoria Mosack, and Twyla J. Hill. (2015) "Change in Sexual Activity after a Cardiac Event: the Role of Medications, Comorbidity, and Psychosocial Factors". Applied Nursing Research, 28(3), 244-250.
8. Steinke, Elaine E., Victoria Mosack, and Twyla J. Hill. (2014) "Cardiac Comorbidities and Sexual Activity Predict Sexual Self-Perception and Adjustment". Dimensions of Critical Care Nursing, 33(5):285-292.
9. Steinke, Elaine E., Victoria Mosack, and Twyla J. Hill. (2013) "Sexual Self-Perception and Adjustment of Cardiac Patients: A Psychometric Analysis". Journal of Research in Nursing, 8(3):9-20.
10. Wright, David W. and Twyla J. Hill. (2009) "Prescription for Trouble? Medicare Part D and Patterns of Computer and Internet Access among the Elderly". Journal of Aging and Social Policy, 21(2):172-186.
11. Lewandowski, Cathleen A. and Twyla J. Hill. (2008) "The Impact of Foster Care and Temporary Assistance for Needy Families (TANF) on Women's Drug Treatment Outcomes". Child and Youth Services Review, 30:942-954.

Other Significant Products Related to Health Disparities and Data Analytics

1. Hill, T.J. (2015). Family Caregiving in Aging Populations. Palgrave MacMillan.
2. Treas, J. and T.J. Hill. (2008) Social Trends and Public Policy in an Aging Society. Pp. 763-783 in The Handbook of Research on Adult Development and Learning, M.C. Smith, Ed. Routledge: New York, NY.

History of Collaborations: Dr. Hill has a long history of fruitful interdisciplinary collaboration. For example, she has published eleven peer reviewed journal articles with faculty from Health Professions. She has published as well with faculty from Social Work, Applied Studies (Education), and a Fine Arts faculty member at Southwestern College. Through various collaborations, she has received federal, state, and university funding. Most recently (2020) she received a grant from the Regional Institute on Aging for an interdisciplinary project with a faculty member from Dance.

Relevant Curricular Activities: Dr Hill teaches three research methods courses: SOC 501 Sociological Statistics, SOC 512 Measurement and Analysis, and SOC 801 Application of Advanced Statistical Techniques. She teaches several courses which are cross-listed with Aging Studies in Health Professions and contain health-related content: SOC/AGE 405 Sociology of Aging, SOC/AGE 520 Families and Aging, and SOC/AGE/PSY/SCWK 559 Successful Aging: Theory, Research, and Practice. Additionally, she teaches SOC 543 Aging and Public Policy and AGE 804 Social Policy and Aging. Dr. Hill also helped design the proposal for a new BA in Performing Arts and Society, which was one of four finalists in the 2018-2019 WSU Interdisciplinary Program Competition.

Contributions to Proposed Convergence Sciences Initiative: Dr. Hill's background in aging studies and sociology more generally will contribute to the group's focus on inequality and social determinants of health. Her wide knowledge of research methodology, statistical techniques, and data analytics will assist the integration of the social science, engineering, and health fields. Dr. Hill also has experience with finding and analyzing nationally representative random datasets, which should help jumpstart preliminary research for the group. As a senior faculty member, she can provide mentorship to junior faculty. Lastly, Dr. Hill's past successful collaborative involvement predicts that this group will be productive as well.

Biographical Sketch: Laila Cure Vellojín, PhD

Assistant Professor, Industrial and Manufacturing Engineering, College of Engineering, Wichita State University, 316-978-3425; Laila.Cure@wichita.edu

Professional Preparation

<u>College/University</u>	<u>Major</u>	<u>Degree & Year</u>
Universidad del Norte (Colombia)	Industrial Engineering	B.S., 2003
Universidad del Norte (Colombia)	Industrial Engineering	M.S., 2006
University of South Florida (USA)	Industrial Engineering	Ph. D., 2011

Appointments

Wichita State University, Wichita, KS, USA

2015 – Present Assistant Professor, Department of Industrial and Manufacturing Engineering.

Western Michigan University, Kalamazoo, MI, USA

2011 – 2014 Assistant Professor, Department of Industrial and Entrepreneurial Engineering & Engineering Management.

University of South Florida, Tampa, FL, USA

2009-2011 Research Assistant, Department of Industrial and Management Systems Engineering.

James A. VA Medical Center, Tampa, FL, USA

2009-2011 WOC Research Associate, Physical Medicine and Rehabilitation.

University of South Florida, Tampa, FL, USA

2006-2009 Teaching Assistant, Industrial and Management Systems Engineering Department.

Biofilm S. A., Cartagena, Colombia

2005-2006 Inventory Planning and Operations Manager, Planning Department.

Worldtex Caribe LTDA. Cartagena, Colombia.

2004-2005 Plant Engineer, Industrial Engineering Department.

Universidad del Norte, Barranquilla, Colombia

2003-2004 Instructor, Industrial Engineering Department.

CERREJON, Albania, Guajira, Colombia

2002-2002 Intern, Coal Planning and Coordination Department

PRODUCTS

Five Products Most Closely Related to the Proposed Project

- 1) **Cure, L.** Van Enk, R. "Effect of Hand Sanitizer Location on Hand Hygiene Compliance", American Journal of Infection Control (2015) 43(9):917-921.
- 2) Tiong, E. **Cure, L.** Augmenting Inpatient Care Work Analysis with Computer Simulation and Data Analytics. Proceedings of the 2018 Industrial and Systems Engineering Research Conference.
- 3) Aragon, L., **Cure, L.** Tiong, E., Bush, R., (2018). Modeling and Analysis of Short-term Work Planning in Inpatient Care Settings. *Operations Research for Healthcare*, 19, 14-25.
- 4) **Cure, L.** Van Enk, R. Tiong E. "A Systematic Approach for the Location of Hand Sanitizer Dispensers in Hospitals", *Healthcare Management Science* (2013) DOI: 10.1007/s10729-013-9254-y
- 5) Butt, S. Fredericks, T. **Cure, L.** Burns, J. Harms, K. "Effect of Stretcher Mobility Related Design Features on Healthcare Workers". Proceedings of the 2013 Industrial and Systems Engineering Research Conference (2013), 1854-60

Five Other Significant Products

- 1) **Cure, L.** Elliot, A., Nicks, S. (2017). Identifying Appropriate Interruption-Handling Strategies during Healthcare Care Processes. *IIE Transactions on Healthcare Systems Engineering*, 7(4), 261-270.
- 2) **Cure, L.** Zayas-Castro, J. Fabri, P. "Clustering Near-Miss Reports to Identify Risk in Healthcare Delivery", *Journal of Biomedical Informatics* (2011), 44(5):738-48.
- 3) **Cure, L.** Zayas-Castro, J. Fabri, P. "Challenges and Opportunities in the Analysis of Risk in Healthcare" *IIE Transactions on Healthcare Systems Engineering* (2014), 4(2):88-104
- 4) Weheba, G. **Cure, L.** Toy, S., (2018) Perceived dimensions of healthcare quality in published research. *Int. Journal of Healthcare Management*, Accepted. DOI: 10.1080/20479700.2018.1548156.
- 5) **Cure-Vellojín, L.** Ramírez-Ríos, D., Herrera-Hernández, M. Paternina-Arboleda, C. Miller, W. "A Fictitious Play algorithm applied to a retailer's replenishment decision problem in a two-echelon supply chain," *Int. J. Logistics Systems and Management* (2011), 8(3)

Biographical Sketch: Nikki Keene Woods, PhD, MPH

Associate Professor, Public Health Sciences, College of Health Professions, Wichita State University
316-978-3060; Nikki.keenewoods@wichita.edu

Professional Preparation

Wichita State University	Wichita, Kansas	Community Development	BS 2007
University of Kansas	Lawrence, Kansas	Applied Behavioral Science	MA 2009
University of Kansas, School of Medicine	Kansas City, KS	Public Health	MPH 2010
University of Kansas	Lawrence, Kansas	Behavioral Science	PhD 2011

Appointments

Year(s)	Title
2017-pres	Associate Professor, Public Health Sciences, Wichita State University
2012-2017	Assistant Professor, Public Health Sciences, Wichita State University
2013-pres	Volunteer Faculty, Department of Family and Community Medicine, University of Kansas, School of Medicine – Wichita
2012-2012	Research Instructor, Department of Family and Community Medicine, University of Kansas, School of Medicine – Wichita
2010-2012	Senior Research Associate, Department of Family and Community Medicine, University of Kansas, School of Medicine – Wichita

Publications

Six Recent Publications Most Closely Related to the Proposed Project:

1. Chesser, A., Reyes, J., & Keene Woods, N. (2019) Identifying Health Literacy in Kansas Using the Behavioral Risk Factor Surveillance System. *International Quarterly of Community Health Education*, 39(4) 209–216, doi:10.1177/0272684X18821305
2. Keene Woods, N. & Chesser, A. K. (2017) Validation of a Single Question Health Literacy Screening Tool for Older Adults. *Gerontology and Geriatric Medicine*, 3:1-4, doi: 10.1177/2333721417713095
3. Keene Woods, N., Reyes, J., Chesser, A. (2016) Infant Mortality and Race in Kansas: Associations with Women, Infants, and Children Services. *Journal of Primary Care and Community Health*, online first. doi: 10.1177/2150131916635572
4. Keene Woods, N., Ahlers-Schmidt, C., Wiperman, J., & Williams, T. (2015) Comparing Self-Reported Infant Safe Sleep from Community and Healthcare-Based Settings. *Journal of Primary Care and Community Health*, 6(3): 205-210. doi:10.1177/2150131914567967, PMID: 26066348
5. Keene Woods, N. & Chesser, A.K. (2015) Becoming a Mom: Improving Birth Outcomes through a Community Collaborative Prenatal Education Model. *Journal of Family Medicine and Disease Prevention*, 1(1): 1-4.
6. Keene Woods, N., Watson, L., & Nguyen, A. T. (2014). Built Environment and Preterm Birth: A Review of the Literature. *Kansas Journal of Medicine*, 7(3): 77-87.

Synergistic Activities

History of Collaborative Research: Dr. Keene Woods (CHP) is trained in collaborative community development and research. She has a broad background in public health, with specific training and expertise in applied behavioral science and community-based participatory research. Her research includes a focus on reducing health disparities related to women's health utilizing comprehensive community-based methods. She has been the PI or co-Investigator on numerous grants, including projects to understand health literacy, promote comparative effectiveness research, promote breastfeeding, increase access to birth control and reduce infant mortality. Dr. Keene Woods has a long history of successful convergence science experience with multiple publications with faculty from other WSU divisions (Nursing, Physician Assistant, Communication Sciences and Disorders, and Liberal Arts and Sciences) and KBOR partners (University of Kansas and University of Kansas School of Medicine – Wichita (KUSM-W)).

Community-based Health Disparities Research: Dr. Keene Woods has been working to address local and national health disparities since she was hired. Her first funded study at WSU was through a MURPA award to examine birth outcomes by provider type to increase access to quality care in Kansas. Dr. Keene Woods has worked in partnership with the local and state health departments on program evaluation, including support for maternal and child health program funded by the US Department of Health and Human Services. Past community and industry partners resulting in funded studies include the March of Dimes and the Blue Cross Blue Shield Foundation.

Health Literacy Research: Dr. Keene Woods has been involved in health literacy research for over 10 years. Early studies examined health literacy assessment tools in clinical settings, which led to the use of a single question screening tool. Later work examined health literacy impact at the population level resulting in findings to support health literacy education and training needs.

National Agenda on Public Health Research: As an Associate Professor of Public Health, Dr. Keene Woods serves on Kansas Public Health Association's board and the national American Public Health Association as the Women's Caucus Membership Chair. These national and international organizations provide Dr. Keene Woods an opportunity to collaborate with colleagues and share lessons with students. Dr. Keene Woods is experienced in community-based research conducted by teams of experts. She established the Women's Health Network and the WSU Center for Health Disparities through securing external funding. The Network includes over 75 professionals, community members, and students working together to address health disparities.

Record of External Funding: Dr. Keene Woods has received funding through various organizations including the Patient Centered Outcomes Research Institute (\$250,000, WSU Liberal Arts and Sciences), the US Health Resource Services Administration (\$90,000, Geary County rural health partner and KUSM-W, and Kansas State Health Department), the Kansas Bioscience Authority (\$20,000, KUSM-W), and the WSU Aging Institute (\$25,000, Engineering).

Biographical Sketch: Rhonda K. Lewis, PhD, MPH

Professor and Chair of Psychology Department, Fairmount College of Liberal Arts and Sciences, Wichita State University, 316-978-3695; rhonda.lewis@wichita.edu

Professional Preparation

Wichita State University	Wichita, KS	Psychology	BA, 1991
University of Kansas	Lawrence, KS	Human Development	MA, 1993
University of KS Medical Center	Kansas City, KS	Community Health	MPH, 1996
University of Kansas	Lawrence, KS	Development & Child Psychology	PhD, 1996

Appointments

Year(s)	Title
2015-pres	Chair of Psychology Department, Wichita State University
2009-pres	Professor of Psychology, Wichita State University
2003-2009	Associate Professor, Psychology Department, Wichita State University
1998-pres	Clinical Assistant Professor, Department of Preventive Medicine, University of Kansas School of Medicine - Wichita, Kansas
1996-2003	Center for Substance Abuse Prevention Fellowship, Substance Abuse and Mental Health Administration (SAMHSA), Washington, DC
1996-1997	Assistant Professor, Psychology Department, Wichita State University Inaugural Kansas Health Foundation Fellowship-Post doc, Department of Preventive Medicine, University of Kansas School of Medicine - Wichita Kansas

Five Publications Most Closely Related to the Proposed Project:

1. Lewis, R. K., Lee, F. Brown, K., LoCurto, J., Stowell, D., Maryman, J., Lovelady, T., Williams, G., Morris, D., & McNair, T. (2018). Youth Empowerment Implementation Project Evaluation Results: A Program Designed to Improve the Health and Well-Being of Low Income African American Adolescents. *Journal of Prevention and Intervention in the Community*. 46, 28-42. Doi.org/1080/10852352.2018.1385954.
2. Carmack, C., & Lewis, R. K. (2016). Assessing Whether Religious Behaviors and Positive and Negative Affect are Associated with Alcohol and Abuse among a Sample of College Students Living in the Midwest. *Journal of Religion and Health*. DOI 10.1007/s 10943-016-0214-y
3. Carmack, C., & Lewis, R. K. (2015). Get the message: Targeting beliefs to developing risk reduction intervention messages for African American adolescents. *American Journal of Community Psychology*. 55, 396-410.
4. Redmond, M., & Lewis, R. K., (2014). Are there gender differences in perceived sexual self-efficacy among African American adolescents? *Journal of Health Disparities Research and Practice*. 7, 1-12.
5. Paschal, A., Lewis, R. K., Martin, A., Dennis-Shipp, D., & Simpson, (2006). Evaluating the Impact of a Hypertension Program for African Americans: Activities for Life Project. *Journal of the National Medical Association*. 98, 607-615.

Five Other Significant Publications:

1. **Lewis, R. K.** and Huynh, M. (2017). Mental Health Provisions, Religion, Politics, and Guns: College Students Express their Concerns. *Mental Health, Religion, & Culture*. 20, 756-765. 10.1080/13674676.2017.1397615.
2. **Lewis, R. K.** LoCurto, J., Brown, K., Stowell, D., Maryman, J., Dean, A., McNair, T., Ojeda, D., & Siwierka, J. (2015). College Students Opinions on Gun Violence. *Journal of Community Health*. DOI 10.1007/s 10900-15-0118-x
3. **Lewis, R., K.,** Redmond, M., Paschal, A., & Green, B. L. (2005). Health Behavior Patterns of African Americans: Are We making progress toward Health People 2010 Goals? *American Journal of Health Studies*, 20, 149-155.
4. Kirk, C. **Lewis, R. K.,** Brown, K., Scott, A., Karibo, B, & Park, E. (2015). The Empowering Schools Project: Identifying the Classroom and School Characteristics that Lead to Student Empowerment. *Youth and Society*.
5. Kirk, C., **Lewis, R.K.** (2015). Sense of Community on an Urban Commuter Campus: Implications for College Retention and Student Development. *International Journal of Adolescence and Youth*, 20, 45-60.

Synergistic Activities:

Substance Abuse and HIV/AIDS prevention research among adolescents: Dr. Lewis' early work on substance abuse prevention began in graduate school when she worked with a coalition funded by the Kansas Health Foundation entitled "Project Freedom" whose goal was to prevent merchants from selling tobacco and alcohol products to minors. Dr. Lewis later received a Center for Substance Abuse Prevention (CSAP) fellowship from SAMSHA wrote two grants that were funded by CSAP to reduce the risk of substance use and HIV infection among African American adolescents.

Evaluating and Supporting Community Initiatives for Health and Wellness: As a research associate during graduate school Dr. Lewis spent a lot of time focused on conducting preventive interventions with community partnerships providing technical assistance, monitoring and evaluating health initiatives from cardiovascular disease prevention to adolescent pregnancy prevention. These initiatives were designed to improve the health of Kansans by making environmental change and mobilizing the communities to action.

Reducing Health Disparities among Populations of Color: Dr. Lewis wanted to conduct health disparities research among populations of color who are disproportionately suffering from all sorts of diseases: hypertension, diabetes, cancer, obesity, and HIV/AIDS. In order to establish an independent research program, she immediately began to study the health of populations of color and focusing her energy around creating interventions in the community to reduce health disparities by develop community partnerships.

University and Community Collaborations: Dr. Lewis has worked in community collaborations and partnerships for over twenty years and over the same time period has worked in the University and in the community to recruit and retain women and underrepresented individuals. She has graduated 21 Ph.D. students and mentored numerous junior Faculty locally and nationally, while collaborating with community-based organizations to secure federal grants and community practicum opportunities for students.

Biographical Sketch: Ajita Rattani, PhD.

Assistant Professor, Electrical Engineering and Computer Science Department, College of Engineering, Wichita State University, 316-978-3456; ajita.rattani@wichita.edu

Professional Preparation

Ministry of Communications and Information Technology	New Delhi, India	Computer Science	BS	2003
Ministry of Communications and Information Technology	New Delhi, India	Computer Science	MS	2005
University of Cagliari	Cagliari, Italy	Computer Science and Engineering	PhD	2010
University of Cagliari	Cagliari, Italy	Biometrics/ AI	Post-doc	2010 - 2012
Michigan State University	East Lansing, MI	Biometrics/ AI	Post-doc	2013 - 2014

Appointments

2019 - Current	<i>Assistant Professor</i> , Electrical Engineering and Computer Science Department, Wichita State University, Wichita, KS
2014 – 2018	<i>Adjunct Professor</i> , Computer Science and Electrical Engineering Department, University of Missouri - Kansas City, Kansas City, MO

Products

(i) *Products Most Closely Related to Proposed Project*

1. **A. Rattani**, R. Derakhshani and A. Ross (editors), "Selfie Biometrics: Advances and Challenges", Springer International Publishing, 2019
2. **A. Rattani**, R. Derakhshani, "A Survey of mobile face biometrics", Elsevier Computers & Electrical Engineering, 72, pp. 39-52, 2018
3. **A. Rattani**, N. Reddy and R. Derakhshani, "Multi-biometric Convolutional Neural Networks for Mobile User Authentication", IEEE International Symposium on Technologies for Homeland Security (HST), Woburn, MA, pp. 1-6, 2018
4. **A. Rattani**, N. Reddy and R. Derakhshani "Convolutional Neural Networks for Gender Prediction from Smartphone-based Ocular Images", IET Biometrics, 7 (5), pp. 423-430, 2018
5. **A. Rattani**, R. Derakhshani, S. K. Saripalle and V. Gottemukkula, "ICIP 2016 Competition on Mobile Ocular Biometric Recognition", IEEE International Conference on Image Processing (ICIP), Phoenix, AZ, pp. 320-324, 2016

(ii) *Other Significant Products*

1. H. Nyugen, **A. Rattani** and R. Derakhshani, "Biometric Fusion with Applications in Passenger Re-authentication for Automated Border Control Systems", IEEE International Symposium on Homeland Security (HST), Woburn, MA, pp.1-6, 2019
2. **A. Rattani**, N. Reddy and R. Derakhshani, "Convolutional Neural Network for Age Classification from Smart-phone based Ocular Images", IEEE International Joint Conference on Biometrics (IJCB), Denver, CO, pp. 756-761, 2017

3. N. Poh, J. Kittler, **A. Rattani** and M. Tistarelli, "Group-specific score normalization for biometric systems," IEEE Computer Society Conference on Computer Vision and Pattern Recognition - Workshops, San Francisco, CA, pp. 38-45, 2010.
4. A. Ross, **A. Rattani** and M. Tistarelli, "Exploiting the "dodgington zoo" effect in biometric fusion," IEEE 3rd International Conference on Biometrics: Theory, Applications, and Systems, Washington, DC, pp. 1-7, 2009
5. D. R. Kisku, **A. Rattani**, E. Grosso and M. Tistarelli, "Face Identification by SIFT-based Complete Graph Topology", 2007 IEEE Workshop on Automatic Identification Advanced Technologies, Alghero, pp. 63-68, 2007

Synergistic Activities

1. Filed a **patent** titled "Authentication Verification Using Soft Biometric Traits", Application No.16361038 and Confirmation No. 4732
2. Member of the **National Society of Black Engineers** at Wichita State with the mission to increase the number of culturally responsible Black Engineers who excel academically, succeed professionally and positively impact the community
3. Advisor to the **Society of Women Engineers** at Wichita State with the mission to stimulate women to achieve their full potential as engineers and leaders, and demonstrate the value of diversity
4. Member of the **IEEE HKN** student chapter at Wichita State in order to encourage and acknowledge excellence in students in the field of computer science, electrical engineering and participate in K-12 outreach activities
5. Editorial **Board Member** and IEEE Biometric Council's representative to the IEEE Young Professionals.

Biographical Sketch: Deanna Carrithers, WSU Doctoral Student

Educational Leadership, College of Applied Studies, Wichita State University, 316-978-5932;
Deanna.Carrithers@wichita.edu

Professional Preparation

Wichita State University	Wichita, KS	Educational Leadership	EdD	May 2021
Wichita State University	Wichita, KS	Master of Public Administration	MPA	May 2007
University of Kansas	Lawrence, KS	Bachelor of Arts	BA	December 2004

Appointments

Years

10/2016 - Current Director of Operations, Wichita State University, Wichita, Kansas
01/2013 - 09/2016 Director of Operations/Special Projects Liaison, Wichita State University, Wichita, Kansas
12/2011 - 12/2013 Management Analyst II, Sedgwick County, Wichita, Kansas
07/2011 - 07/2017 Consultant, Derby Recreation Commission, Derby, Kansas
05/2010 - 07/2011 Program Manager, Center for Health and Wellness, Wichita, Kansas
03/2008 - 05/2010 Contract Specialist, Sedgwick County, Wichita, Kansas

Products

Course Handbook: Fleming-Randle, Harrison, and Carrithers (2020) Dealing with Diversity
Course Handbook: Fleming-Rande, Harrison and Carrithers (2019) Black Women: Love, Lust and Loss
Field Study: Carrithers, Fisher, Lovesee, Jasso, Monk-Morgan, Hatfield, and Rangel, (2019) Places and Spaces: Environmental Factors and Student Performance
Field Study: Carrithers, Fisher, Hayes, Lovesee, Rodrick (2018) Missing in Action: An Investigation of Chronic Absenteeism in a Small City School District in Kansas

Synergistic Activities

2016-Present Co-Chair of the President's Diversity Council
2018-Present Chair/Co-Chair of Inclusive Excellence Activation Team for Wichita State University Strategic Plan
2018-Present Chair of the First-Generation Coordinating Council Data and Assessment Subcommittee
2009-2020 Member of the Sedgwick County Community Corrections Advisory Board
2015-Present Member of the African-American Faculty/Staff Association
2015-Present Member of the Women of Wichita State University Association

Biographical Sketch: Betty Smith-Campbell, PhD, APRN-CNS

Professor, School of Nursing, College of Health Professions, Wichita State University
316-978-5746; Betty.Smith-Campbell@wichita.edu

Professional Preparation

University of Colorado, Denver, CO	Nursing (Human Science Human Caring)	Ph.D.
University of Kansas, Kansas City, KS	Community Health Nursing	M.N.
University of Michigan, Ann Arbor, MI	Nursing	B.S.N.

Licensure RN License & APRN, Clinical Nurse Specialist-Community Health – Kansas

Appointments/Experiences (Relevant):

2011 to present	Professor,	Wichita State University
2004 to 2011	Associate Professor. Tenured 2004	Wichita, KS 67260
1998 to 2004	Assistant Professor	

Administrative/Management

2012-2015	Chairperson, School of Nursing	Wichita State University
1993-1998	Assistant Dean for Practice & Community Affairs	University of Kansas
1994-1998	CEO-Community Practice Partnerships	KU School of Nursing Corporation
1988-1994	Chairperson Department of Nursing	Saint Mary College, Leavenworth, KS

Publications/Presentations

Most Closely Related to the Proposed Project: Collaboration; Cultural Competency; Health Policy

1. Smith-Campbell, B. (2013). *Creative solutions in a time of limited resources: An interprofessional nursing-public health on-line collaborative*. AACN Hot Issues Conference. St. Louis, MO. Paper
2. Deutsch, A. & Smith-Campbell, B. (2012). *Policy and politics*. In P.D. Larsen & I.M. Lubkin (Eds.), *Chronic Illness Impact and Interventions*. (7th edition) Boston: Jones and Bartlett Publishers, Inc.
3. Smith-Campbell, B. & Smith, B. (2011). *Research Report: The impact of a Federally Qualified Health Center's oral health program on dental emergency room visits*. Kansas Department of Health and Environment, Bureau of Oral Health, Topeka, KS.
4. Smith-Campbell, B., Anderson, K. (2011, November). *Evaluation of a Federally Qualified Health Center's (FQHC) oral health intervention program on preventable dental emergency department visits*. Annual APHA Meeting Washington, DC. Poster
5. Smith-Campbell, B. & Brandes, J.M. (2010, Nov.). *Interdisciplinary Course Collaborative: School of Nursing and Department of Public Health Sciences*. Annual APHA Meeting Denver, CO
6. Smith-Campbell, B. Wright, D. & Samuels, M. (2008). *A rural federally qualified health center's influence on hospital emergency room uninsured/Medicaid visits and costs*. Nat. Assoc. Rural Health.
7. Smith-Campbell, B. (2005). *Emergency department and community health center visits and costs in an uninsured population*. *Journal of Nursing Scholarship*. 37(1), 80-86.
8. Smith-Campbell, B. (2005). *Health professional students' cultural competence and attitudes toward the poor: The influence of a clinical practicum supported by the National Health Service Corps*. *Journal of Allied Health*, 34 (1), 56-62.

Synergistic Activities: Research as PI

History of Scholarly Community Collaborations (Areas: Policy; Vulnerable populations)

1. *Evaluating the Impact of Midwifery Services on Access to Preventative Health Care in a Rural Community*. ([Collaboration Rural Nurse Midwife](#))
2. *Evaluation of a Federally Qualified Health Center's Oral Health Intervention Program* ([Kansas Department of Health - Bureau of Oral Health Funded](#))

3. *Influence of a Rural Community Health Center intervention on inappropriate emergency room use. Rural Federally Qualified Health Center* (Funded)
4. *Consequences of the uninsured: Hospital and community health center costs. Not-for-Profit Community Health Center-Mid-sized Community* (Funded)
5. *Determining the community effects of one Rural FQHC: Hospital costs/savings, ED visits by uninsured and Medicaid individuals. National Rural Health Association.* (Funded)
6. *Outcome Evaluation Study: Influence of a Community Health Center on ED visits and estimating the cost saving of the CHC on hospital charity care. Volunteers in Health Care-Evaluation Outcome Studies HCA, Inc., Lawrence, KS.* (Funded)
7. *National Health Service Corps Program Evaluation. Program Evaluation study and Cultural competence of health providers. KS Association for the Medically Underserved.* (Funded)
8. *Access to Primary Care: Influence of Governmental Policies. Quantitative study, three communities, ER utilization, DRG Admission rates, Patient Satisfaction, & Influence of policy on county health care systems. Kansas Association for the Medically Underserved. Topeka, KS* Funded

Relevant Curricular Activities: Courses or topics on: Health Disparities, Health Inequities Population and Social Determinants of Health, Cultural Competence, Health and Social Policy. Evidence based practice-literature reviews and data collection on health topics, including obesity.

Synergistic Activities: Experience in developing and partnering with professional/ community organizations: Policy initiatives and establishing new organizations. Relevant Examples:

National/State:

- Influenced professional and government policy: elected Board member of the American Nurses Association: President Kansas State Nurses Association

State:

- Kansas Advance Practice Nurses Association. (Founding Member/Treasurer 2015-2018). Organization to remove APRN policy barriers to improve health outcomes.
- KS Executive committee member of KS Action Coalition (2012-2015) Statewide policy initiative in implementation of IOM Future of Nursing Report-to improve health outcomes
- KS Health Consumer Coalition, (Founding member, President, board member) (2004-2010) organization to advocate for affordable, accessible, and quality health care in Kansas
- KS Health Policy Authority At-Large Health Reform Council (2007-2010)
- KS Health Care Data Governing Board (1999-2000). (Advise KS Health Policy Authority)
- KS Taskforce Linkages/Partnerships (1998-1999) Subgroup Governor's Comm: PH Improvement Plan
- KS Department of Health & Environment Advisory Board Member (96-97) Preventive Health Grants

County/City

- Personally, brought together community leaders in one county to assess the health needs of the medically indigent. From this group of task force members led the community in the formation of a not-for-profit organization to provide health care to individuals with limited incomes (Founding member). Served as President (1998-1992). Douglas County, KS
- WSU-Fairmount Neighborhood collaborative (2015 to 2016) Enough is Enough Task force
- Sedgwick County (2009 to 2011) Community Coverage Advisory Committee
- Sedgwick County Health Access Implementation Plan (2007-2008) Appointed by Commissioner
- Pandemic Influenza Work Group-Sedgwick County (2005 to 2007)
- Other County activities: Chair Adult Immunization Campaign; Rosedale, KS Revitalization Project; Advocacy council on Aging (appointed by Commissioners)

Biographical Sketch: Janet Twomey, PhD

Associate Dean, College of Engineering; Professor of Industrial, Systems, and Manufacturing Engineering; 316-978-5908; janet.twomey@wichita.edu

Professional Preparation

Duquesne University	Pittsburgh, PA	Psychology / Sociology	BA 1977
University of Pittsburgh	Pittsburgh, PA	Industrial Engineering	BS 1990
University of Pittsburgh	Pittsburgh, PA	Industrial Engineering	MS 1992
University of Pittsburgh	Pittsburgh, PA	Industrial Engineering	PhD 1995

Appointments

<i>Year(s)</i>	<i>Title</i>
2015-pres	Associate Dean for Research, Graduate Studies and Faculty Success, College of Engineering, Wichita State University
2008-pres	Professor, Industrial and Manufacturing Engineering, Wichita State University
2000-2008	Associate Professor, Industrial and Manufacturing Engineering, Wichita State University
2001-2004	Program Officer, Manufacturing Enterprise Systems, Division of Design, Manufacture and Industrial Innovation, Engineering Directorate, National Science Foundation
1994-2000	Assistant Professor, Industrial and Manufacturing Engineering, Wichita State University
1984-1990	Research Specialist: Data Analyst/Manager. Built and managed data analytic team. Department of Child and Adolescent Psychiatry, University of Pittsburgh School of Medicine
1981-1984	Project Coordinator, Dept of Psychiatry, University of Pittsburgh School of Medicine
1978-1981	Research Associate Senior, Dept of Psychiatry, University of Pittsburgh School of Medicine

Publications

Six Recent Publications Most Closely Related to the Proposed Project:

1. Alshqaqeeq, F., Esmaili, M. A., Overcash, M., & Twomey, J. (2020). "Quantifying hospital services by carbon footprint: A systematic literature review of patient care alternatives." *Resources, Conservation and Recycling*, 154, 104560.
2. Alshqaqeeq, F., C. McGuire, M. Overcash, K. Ali, J. Twomey, (2020) Choosing Imaging Modalities to Meet Patient Needs with Lower Environmental Impact, *Resources, Conservation and Recycling*, 155, April, 2020, 6 p.
3. Esmaili, A., McGuire, C., Overcash, M., Ali, K., Soltani, S., & Twomey, J. (2018). "Environmental impact reduction as a new dimension for quality measurement of healthcare services." *International journal of health care quality assurance*.
4. Mason, C., Twomey, J., Wright, D., & Whitman, L. (2017) Predicting Engineering Student Attrition Risk Using a Probabilistic Neural Network and Comparing Results with a Backpropagation Neural Network and Logistic Regression. *Research in Higher Education*, 1-19.
5. Esmaili, A., Twomey, J. M., Overcash, M. R., Soltani, S. A., McGuire, C., & Ali, K. (2015). "Scope for energy improvement for hospital imaging services in the USA." *Journal of health services research & policy*, 20(2), 67-73.
6. Soltani, S. A., Overcash, M. R., Twomey, J. M., Esmaili, M. A., & Yildirim, B. (2015). "Hospital Patient-Care and Outside-the-Hospital Energy Profiles for Hemodialysis Services: Report of Two Cases." *Journal of Industrial Ecology*, 19(3), 504-513.

Synergistic Activities

History of Collaborative Research: Dr. Twomey extensive experience as PI for a number of multidisciplinary research awards from primarily NSF and the DOE. Her three most recent examples

include: “NSF ADVANCE Catalyst: A Catalyst to Increase the Representation and Advancement of Women and Underrepresented Minorities in Academic STEM Careers at Wichita State University”; NSF: “Workshop to Scope an Effective Environmental Genome Mapping Initiative”; and “NSF: Sustainable Energy Pathways: Collaborative: Achieving a Sustainable Energy Pathway for Wind Turbine Blade Manufacturing”.

Machine Learning and Data Analytics: As a professor of Industrial, Systems, and Manufacturing Engineering, Dr. Twomey developed and taught the graduate level course in machine learning, *Foundations of Neural Networks*. For her research in machine learning, she received an NSF CAREER award to investigate strategies to make optimal use of sparse noisy data for training and validating. Over 20 years she has collaborated with a number faculty from different disciplines to apply the outcomes of her NSF CAREER research to problems in manufacturing, music, medicine, engineering education, and ergonomics. Dr. Twomey also taught courses in probability and statistics I & II, and simulation. Prior to obtaining her PhD in engineering, she built and managed a data analytic team in the Child and Adolescent Psychiatry department at the University of Pittsburgh’s School of Medicine.

Embracing Diversity: Dr. Twomey has been working to increase the number of underrepresented students in the WSU College of Engineering since she was hired. Dr. Twomey is WSU PI for a current subaward under Kansas State University for the NSF Louis Stokes STEM Pathways Implementation-Only Alliance: Kansas Pathways to STEM program, the PI for the NSF ADVANCE Catalyst award. She has participated nationally and internationally in events to improve the status of women faculty: Invited day long advisor and presentation to North Dakota State University ADVANCE Program on Research Program development: Short and long term strategies, September 30, 2014; Twomey, J. (2009), Research Program in Sustainability, Poster Session, Women’s International Engineering Research Summit, Barcelona, Spain, June 1 – June 4, 2009; US-Turkey Workshop: Empowering Women in Industrial Engineering Academia - International Collaborations for Research and Education, Ankara, Turkey, March 2012, Smith (Auburn) and Twomey (Co-PI), NSF, \$60K.; Twomey Keynote: “A Path to Full Professor” ADVANCE Workshop, Auburn Alabama, April 2010.

National Agenda on Engineering Research: Dr. Twomey has expertise in establishing and supporting aspects of the national agenda for engineering research. She spent three years as Program Officer in the Division of the Engineering Directorate at the National Science Foundation. She assumed leadership in launching, shaping, and managing the new Manufacturing Enterprise System’s program. She represented NSF and made presentations at numerous professional meetings, research workshops, and university site visits at the national and international levels. At these presentations she routinely conveyed the critical need for diversity in engineering.

New Areas of Research: Dr. Twomey is experienced in establishing and leading new areas of research focus. She established an environmental impact for industrial sustainability research program at WSU. The program included 12 faculty and a large number of graduate and undergraduate students. She was a Principal Investigator for a Department of Energy research grant in energy and sustainability which funded faculty and students from Wichita State University and Kansas State University.

Record of Faculty Mentorship: Dr. Twomey is currently the Associate Dean for Research, Graduate Studies, and Faculty Development. In that role she works closely with faculty to locate sources of funding and develop their research programs. She has organized faculty development seminars focusing on research, assigns new faculty mentors, and travels to NSF with new faculty to meet program offices. As a Program Officer at the National Science Foundation, Dr. Twomey, together with two other NSF Program Officers, developed and delivered NSF Proposal Writing and CAREER Proposal Writing two workshops. Since leaving NSF she has participated in over ten NSF sponsored CAREER proposal writing workshops.

B. Social Ecological Model of Health

The social ecological model is useful when investigating social determinants of health because it includes five dimensions which impact behavior. First, individuals have knowledge and attitudes about health and health practices, as well as skills that can be utilized to maintain and/or improve their own health. The interpersonal level incorporates families, friends, and social networks, recognizing that individuals affect each other's behavior. The organizational level includes organizations and social institutions such as health insurance, access to health care, structure of health care systems, etc. The community level encompasses relationships between organizations which would include neighborhood characteristics such as safe places to walk, convenient access to healthy foods, etc. The fifth level is public policy; national, state, and local laws and regulations. All the dimensions affect and are affected by the other levels, contributing to the complexity of analytical models and the difficulty of solving these problems.

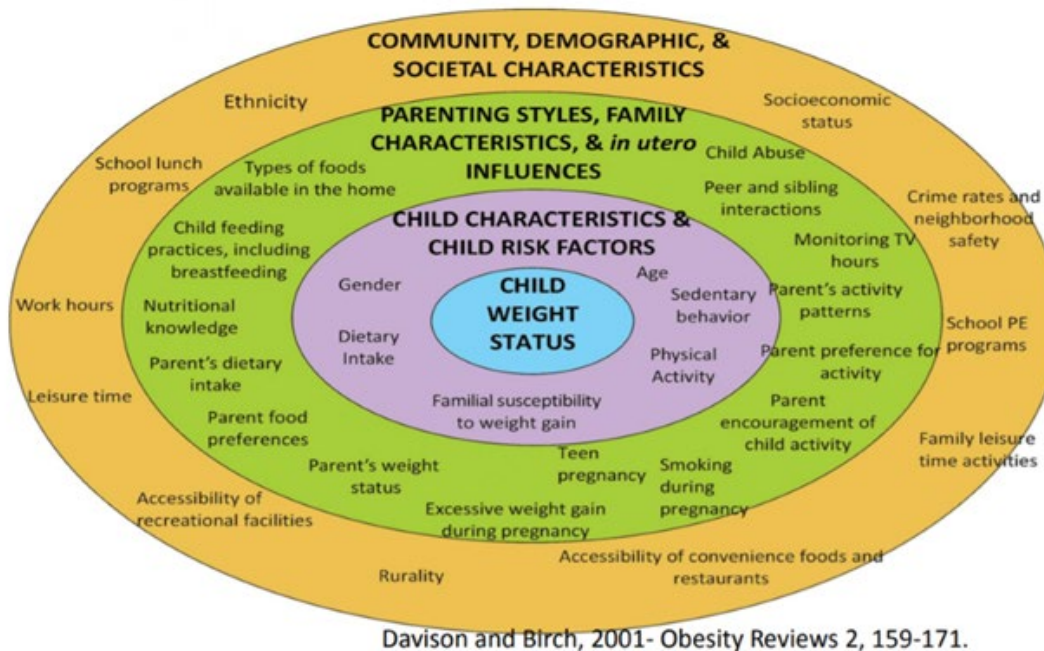


Figure 3. Social Ecological Model and Childhood Obesity

Davison, K. K., & Birch, L. L. (2001). Childhood overweight: a contextual model and recommendations for future research. *Obesity Review*, 2(3), 159-171. doi:10.1046/j.1467-789x.2001.00036.x

C. Knowledge Progression and Research Plan

Knowledge Progression and Research Plan

Phase 1: Integrate social determinants of health with standard medical information to predict obesity.

(Leads: Hill, Rattani)

Goal: Create validate new solutions to integrate standard medical information with social determinants to more accurately predict overweight and obesity at the individual, family and community levels.

Research Q's: How to translate, combine/integrate data over differing time/spatial scales? Can the accuracy of obesity prediction models be increased using social determinants of health? Can large urban setting data be effectively employed to study and model small urban and rural communities? Can we determine BMI using biometric information for persons of color? Can we identify the most influential variables in complex non-linear machine learning models?

Methodologies: Combined statistical and machine learning methods; machine vision/pattern recognition; methods for selecting/deselecting medical and social determinant variables: individual (activity level, diet, BMI); family level (BMI, activity level, schools, income); community level (SES, crime rates, ecological, food options, recreational facilities).

Intellectual Contributions: new methods and algorithms for data translation, interpretation, and integration; new biometric technology for persons of color; more accurate predictions of individual obesity, estimates of obesity rates of in families, and minority populations over time; new methods for assessing impact of inputs on outputs for machine learning models.

Phase 2: Combine algorithmic prediction modeling and formative research methods for increased accuracy. **(Leads: Keene Woods, Cure)**

Goal: Improve and apply new predictive models of obesity in vulnerable minority populations.

Research Q's: How can formative research methods be employed to improve the accuracy of algorithmic models for predicting obesity in minorities? What protective factors have helped those most at risk for obesity to maintain a healthy weight? What insights into maintaining a healthy weight can be gained by mapping individual and community behavior and activity patterns?

Methodologies: Community-based participatory research using listening sessions with both community members and health delivery service providers to gather information on the accuracy of obesity models; applied behavioral sciences approaches to test obesity predictive models using a multiple baseline study design across settings; cohort study to examine obesity protective factors and health literacy levels; combined data for good, google map information, and Community Engagement Institute's Behavioral Health indicators to produce new maps for vulnerable communities.

Intellectual Contributions: new insights for improving health literacy and new strategies for preventing obesity in communities; new mapping information for health advocacy and policy makers.

Phase 3: Targeted behavioral intervention strategies for vulnerable individuals and families (personalized), vulnerable communities, and health professionals **(Leads: Lewis)**

Goal: Design, deploy and assess interventions based on Phase 2 that will lead to changes in individual and family knowledge, attitudes, and behaviors.

Research Q's What is the effectiveness of community-based obesity and health literacy education across different community settings, such as immersive museum exhibits and personalized digital simulations? What is impact of supporting positive behavioral patterns on high-risk but healthy weight adults?

Methodologies: cross-sectional surveys to assess knowledge and literacy; multiple baseline studies.

Contribution: Validated strategies for reducing obesity and health disparities in minority populations.

(link to proposal [Section D. Research Cluster](#))

D. External KBOR Partners

Kansas State University

Richard R. Rosenkranz, PhD, FACSM, Professor, Department of Food, Nutrition, Dietetics, and Health.

Sara K. Rosenkranz, PhD, Committee Chair, Physical Activity and Nutrition Clinical Research Consortium, Associate Professor, Department of Food, Nutrition, Dietetics, and Health.

University of Kansas – Lawrence

Vincent T. Francisco, PhD, Kansas Health Foundation Professor of Community Leadership, Director of the KU Center for Community Health and Development, a WHO Collaborating Centre, Department of Applied Behavioral Science.

University of Kansas School of Medicine – Wichita

Michelle L. Redmond, PhD, Assistant Professor, Department of Population Health.

Tracy Williams, MD, Associate Professor, Department of Family and Community Medicine.

Kansas State University, Richard R. Rosenkranz, PhD: Letter of Support



College of Health and
Human Sciences
Department of Food,
Nutrition, Dietetics and Health

June 3, 2020

Betty Smith-Campbell, PhD, APRN-CNS
Professor, School of Nursing
Wichita State University
1845 Fairmount St, Box 041
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Smith-Campbell,

I am writing to confirm my support as part of the Physical Activity and Nutrition Clinical Research Consortium within the Department of Food, Nutrition, Dietetics and Health at Kansas State University, for the obesity health disparities research cluster. This cluster and the future research will directly improve our communities by improving access to obesity education and using innovative modeling to address health disparities at a population level. I am excited to be a member of the research cluster and to bring my research expertise and experience in the area of lifestyle behaviors, modifiable risk factors, and behavior change interventions in young people. As a public health nutrition researcher, I also have interest and expertise in issues of equity and access for underrepresented and at-risk populations, as illustrated within my biographical sketch.

This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology. This study is a needed response to the identified health disparities in this geographic area using unique and innovative methodologies. Convergent science is a critical component of future community successes and addressing health disparities. The opportunity for our research team to partner with this research cluster at WSU is very exciting and I believe will result in a very beneficial collaboration.

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding is important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration.

Signed,

Richard
Rosenkranz

A digital signature block containing the text: "Digitally signed by Richard Rosenkranz, DN: cn=Richard Rosenkranz, ou=Kansas State University, ou=Dept of Food, Nutrition, Dietetics, & Health, email=ricard@ksu.edu, c=US, serial=20200603113536-0000".

Digitally signed by Richard
Rosenkranz
DN: cn=Richard Rosenkranz,
ou=Kansas State University, ou=Dept
of Food, Nutrition, Dietetics, & Health,
email=ricard@ksu.edu, c=US,
serial=20200603113536-0000

Ric Rosenkranz, PhD, FACSM
Professor | Dept of Food, Nutrition, Dietetics, & Health
College of Health & Human Sciences
321 Lafene Health Center
Kansas State University | Manhattan, KS 66506
ricardo@ksu.edu

Kansas State University, Richard R. Rosenkranz, PhD: Biographical Sketch

BIOGRAPHICAL SKETCH			
NAME: Richard R. Rosenkranz			
eRA COMMONS USER NAME (credential, e.g., agency login): RRosenkranz			
POSITION TITLE: Professor of Food, Nutrition, Dietetics and Health			
EDUCATION/TRAINING:			
INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Kansas; Lawrence, KS	B.A.	05/1993	Psychology; Human Dev & Fam Life
University of North Dakota; Grand Forks, ND	M.A.	05/1996	Psychology
Kansas State University, Manhattan, KS	M.S.	12/2001	Kinesiology
Kansas State University, Manhattan, KS	Ph.D.	05/2008	Human Nutrition
Kansas State University, Manhattan, KS	Grad. Cert.	12/2017	Public Health

A. Personal Statement

With a background in behavioral science, public health nutrition, and physical activity, I have focused my research on the identification of modifiable influences of healthful eating and physical activity to promote health and prevent disease. My research addresses person-environment interactions within behavioral settings, aimed to develop, implement, and evaluate intervention programs designed to modify the influences on health behaviors. I am particularly keen to investigate strategies to modify practices and environmental drivers for lifestyle behaviors to build the evidence base for effective interventions to reduce risk of chronic diseases. With my work to determine the drivers of capability, opportunity, and motivation for healthful eating and physical activity, and how interventions can most effectively modify these drivers for the population, I am well placed to collaborate with the faculty involved in the WSU Health Obesity Disparities Convergence Science Research Cluster.

B. Positions and Honors

Positions and Employment

2008–2010 Assistant Professor, Kansas State University, Department of Human Nutrition; Graduate School and Master of Public Health Program Graduate Faculty
 2010–2011 Lecturer/Research Fellow, Univ. Western Sydney, Biomed & Health Sciences
 2012–2014 Assistant Professor, Kansas State University, Dept. of Human Nutrition
 2013 Ancillary Faculty Member, Kansas State University, Dept. of Kinesiology
 2014–2019 Associate Prof, Kansas State University, Dept. Food, Nutrition, Dietetics & Health
 2018– Special Graduate Faculty, Department of Preventive Medicine and Public Health, University of Kansas Medical School
 2019– Full Professor, Kansas State University, Dept. of Food, Nutrition, Dietetics & Health; Johnson Cancer Center Faculty Scientist; Master of Public Health Faculty

Professional Activities and Honors

2010 GEM Paper of the Year, Journal of Nutrition Education & Behavior
 2015 Section Editor: BMC Public Health – Energy-Balance-Related Behaviors
 2017–2018 USDA; Agriculture & Food Research Initiative SBIR panel
 2017–2019 National Institutes of Health, multi-level physical activity interventions panel
 2018 Winner of Kansas State University Excellence in Engagement Award
 2018–2020 Member-at-large, SIG Chair, Intl Society Behavioral Nutrition & Physical Activity
 2019 Associate Editor: Intl Journal of Behavioral Nutrition & Physical Activity
 2019 Winner of College of Human Ecology Faculty Research Excellence Award
 2019 Honorary Visiting Scholar, Flinders University

- C. Recently Published Contributions to Science** (See <https://scholar.google.com/citations?user=WWR1ybMAAAAJ&hl=en>)
- Rosenkranz RR (2020). To advance population health, we need to be “well behaved”: The science of health behaviour change. Global Telehealth 2019 eBook in the IOS Press series “Studies in Health Technology and Informatics.” doi:10.3233/SHIT200002
- Walch T, Dziewaltowski DA, Fees B, Schenkelberg M, & Rosenkranz RR. (2020) Parent adoption and implementation of obesity prevention practices through building children's asking skills at family child care homes. *Evaluation and Program Planning*. 80, 101810; <http://doi.org/10.1016/j.evalprogplan.2020.101810>.
- McLoughlin G, Rosenkranz RR, Lee J, Wolff M, Chen S, Dziewaltowski DA, Vazou S, Lanningham-Foster L, Gentile D, Rosen M, & Welk GJ. (2019). The Importance of Self-Monitoring for Behavior Change in Youth: Findings from the SWITCH Feasibility Study. *International Journal of Environmental Research & Public Health*. 16 (19), 3806; doi.org/10.3390/ijerph16203806.
- Chen S, Dziewaltowski DA, Rosenkranz RR, Lanningham-Foster L, Vazou S, Gentile DA, Lee JA, Braun KJ, Wolff MM, & Welk GJ (2018). Feasibility Study of the SWITCH Implementation Process for Enhancing School Wellness. *BMC Public Health*. 18:1119. doi.org/10.1186/s12889-018-6024-2
- Cull BJ, Rosenkranz SK, & Rosenkranz RR. (2018) Impact of Online, Video-Based Wellness Training on Girl Scout Leaders' Wellness Promotion Self-Efficacy, Intention, and Knowledge: A Pilot Randomized Controlled Trial. *Aims Public Health*. 5(3):225–234. doi:10.3934/publichealth.2018.3.225.
- Joyce J, Rosenkranz RR, & Rosenkranz SK. (2018) Variation in Nutritional Quality of School Lunches with Implementation of National School Lunch Program Guidelines. *Journal of School Health*. 88:636–643, doi.org/10.1111/josh.12665.
- Cull BJ, Dziewaltowski DA, Guagliano JM, Rosenkranz SK, Knutson C, & Rosenkranz RR (2018). Wellness-Promoting Practices through Girl Scouts: A Pragmatic Superiority Randomized Controlled Trial with Additional Dissemination. *American Journal of Health Promotion*. 32:1544–1554.
- Rosenkranz RR, Rodicheva N, Updyke N, Rosenkranz SK, & Dziewaltowski DA (2017). Behaviorally oriented nutrition education intervention at a Russian summer camp for improving children's dietary choices: A quasi-experimental study. *Nutrire*, 42:18. doi:10.1186/s41110-017-0044-z.
- Schlechter CR, Rosenkranz RR, Guagliano JM, & Dziewaltowski DA (2016). A systematic review of children's dietary interventions with parents as change agents: Application of the RE-AIM Framework. *Preventive Medicine*. 91:233–243. doi:10.1016/j.ypmed.2016.08.030
- Emerson SR, Rosenkranz SK, Rosenkranz RR, Kurti SP, & Harms CA (2016). The potential link between sugar-sweetened beverage consumption and post-exercise airway narrowing across puberty? *Public Health Nutrition*. 19(13):2435–2440. doi:10.1017/S1368980015003109
- Cull BJ, Rosenkranz SK, Dziewaltowski DA, Teeman CS, Knutson CK, & Rosenkranz RR (2016). Wildcat Wellness Coaching feasibility trial: protocol for home-based health behavior mentoring in girls. *Pilot & Feasibility Studies*, 2:26. doi:10.1186/s40814-016-0066-y

D. Research Support

Current Research Support

2018–2023 Dziewaltowski (PI), et al. National Institutes of Health (National Cancer Institute). Whole-of-Community Systems Intervention for Youth Population Physical Activity. Role: Investigator & Site PI

This project will evaluate the impact of a whole-of-community multi-level adaptive systems intervention on implementation of community change and youth population physical activity. Building on local health department partnerships, the investigators will conduct a two-wave staggered-start community randomized trial with four volunteer rural communities randomly assigned to intervention or standard public health practice.

Recent Completed Research Support

2014–2020 Welk (PI), et al. USDA AFRI Childhood Obesity Prevention Challenge Area. Dissemination of the evidence-based SWITCH program for childhood obesity prevention. Role: Investigator

2016–2018 Rosenkranz (PI) et al. Harold and Letha Reser Family and Community Innovation Award. Enhanced Health Promotion in Girl Scouts through Video-Based Leader Wellness Training. Role: Investigator

2016–2017 Rosenkranz (PI) Terry Johnson Cancer Center Individual Research Award. Cancer Prevention Behaviors in Girl Scouts: A Feasibility Study

2014–2016 Rosenkranz (PI) et al. Kansas Health Foundation Healthy Living. Girl Scouts Wellness Policy to Practice

Kansas State University, Sara K. Rosenkranz, PhD: Letter of Support



College of Health and
Human Sciences
Department of Food,
Nutrition, Dietetics and Health

May 16th, 2020

Betty Smith-Campbell, PhD, APRN-CNS
Professor, School of Nursing
Wichita State University
1845 Fairmount St, Box 041
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Smith-Campbell,

I am writing to confirm the support of the Physical Activity and Nutrition Clinical Research Consortium within the Department of Food, Nutrition, Dietetics and Health at Kansas State University, for the obesity health disparities research cluster. This cluster and the future research will directly improve our communities by improving access to obesity education and using innovative modeling to address health disparities at a population level. I am excited to be a member of the research cluster and bring my research expertise and experience in the area of lifestyle behaviors and cardio-metabolic risk factors in young people. As a nutrition researcher, I also have interest and expertise in, and am heavily involved in, issues of equity and access for underrepresented and at-risk populations, as you will see from my biographical sketch.

This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology. This study is a needed response to the identified health disparities in this geographic area using unique and innovative methodologies. Convergent science is a critical component of future community successes and addressing health disparities. The opportunity for our research team to partner with this research cluster at WSU is very exciting and I believe will result in a very beneficial collaboration.

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding is important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration.

Signed,

A handwritten signature in cursive script, appearing to read "Sara K. Rosenkranz".

Sara K. Rosenkranz, PhD
Committee Chair, Physical Activity and Nutrition Clinical Research Consortium
Co-Director, K-State Bridges to the Future
Associate Professor, Department of Food, Nutrition, Dietetics and Health
Rm 322, Lafene Health Center
Manhattan, KS 66506
785.532.1465
SaraRose@ksu.edu

Kansas State University, Sara K. Rosenkranz, PhD: Biographical Sketch

BIOGRAPHICAL SKETCH			
NAME: Sara K Rosenkranz			
eRA COMMONS USER NAME (credential, e.g., agency login): SARAROSE			
POSITION TITLE: Assistant Professor of Food, Nutrition, Dietetics and Health			
EDUCATION/TRAINING:			
INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Kansas; Lawrence, KS	B.A.	05/1993	Psychology
Kansas State University, Manhattan, KS	M.S.	12/2001	Kinesiology
Kansas State University, Manhattan, KS	Ph.D.	05/2010	Human Nutrition
University of Western Sydney, School of Medicine, Sydney, Australia	Research Fellow	01/2012	General Practice

Contact information: Department of Food, Nutrition, Dietetics and Health; Kansas State University; Manhattan, KS 66506; SaraRose@ksu.edu; 785.341.6690

Personal Statement

My primary research line is focuses on the influence of obesity, dietary intake, physical activity, and sedentary behavior on cardiovascular and metabolic clinical health outcomes. My background is in physical activity behavior and human nutrition, therefore I study the interactions between nutrition and physical activity, and how those interactions impact cardiovascular, and metabolic outcomes. As the Executive Committee Chair of the Physical Activity and Nutrition-Clinical Research Consortium at Kansas State University, I am well placed to pursue collaborations with highly qualified colleagues such as the faculty involved in the WSU Health Obesity Disparities Convergence Science Research Cluster.

Positions and Employment

2010–2012	Research Fellow, School of Medicine/Department of General Practice, University of Western Sydney
2012–2013	Instructor (non-tenure track, 60% time), Department of Human Nutrition, Kansas State University
2013–2014	Term Assistant Professor (non-tenure track), Department of Human Nutrition, Kansas State University
2014–2015	Research Assistant Professor (non-tenure track), Department of Human Nutrition, Kansas State University
2015–2019	Assistant Professor (tenure track), Department of Food, Nutrition, Dietetics and Health, Kansas State University
2019–	Associate Professor with tenure, Department of Food, Nutrition, Dietetics and Health, Kansas State University

Recent publications most closely related to the current proposal (* Senior/Corresponding author)

1. Sam R Emerson, Christina M Sciarrillo, Stephanie P Kurti, Emily M Emerson, Sara K Rosenkranz, High-Fat Meal–Induced Changes in Markers of Inflammation and Angiogenesis in Healthy Adults Who Differ by Age and Physical Activity Level, *Current Developments in Nutrition*, Volume 3, Issue 1, January 2019, nzy098, <https://doi.org/10.1093/cdn/nzy098>
2. Cull BJ, Rosenkranz RR, & Rosenkranz SK*. (2018) Impact of Online, Video-Based Wellness Training on Girl Scout Leaders' Wellness Promotion Self-Efficacy, Intention, and Knowledge: A Pilot Randomized Controlled Trial (AIMS Public Health, June 2018). <http://www.aimspress.com/article/10.3934/publichealth.2018.3.225>.

3. Casey K, Mailey EL, Rosenkranz RR, Swank A, Ablah E, & Rosenkranz SK*. Does dietary intake change during an intervention to reduce sedentary behavior and cardiovascular disease risk? *BMC Nutrition*. 2018. 4:16 <https://doi.org/10.1186/s40795-018-0223-1>.
4. Joyce J, Rosenkranz RR, & Rosenkranz SK*. Variation in Nutritional Quality of School Lunches with Implementation of National School Lunch Program Guidelines. *J Sch Health*. 2018 Sept; 88(9): 636-643. doi.org/10.1111/josh.12665.
5. Cull BJ, Dziewaltowski DA, Guagliano JM, Rosenkranz SK, Knutson CK, Rosenkranz RR. Wellness-Promoting Practices Through Girl Scouts: A Pragmatic Superiority Randomized Controlled Trial With Additional Dissemination. *Am J Health Promot*. 2018 Jan 1:890117118754825. doi: 10.1177/0890117118754825. [Epub ahead of print] PubMed PMID: 29378416.

Other relevant publications (* Senior/Corresponding author)

6. Delimont NM, Katz BB, Fiorentino NM, Kimmel KA, Haub MD, Rosenkranz SK, Tomich JM, Lindshield BL. Salivary Cystatin SN Binds to Phytic Acid In Vitro and Is a Predictor of Nonheme Iron Bioavailability with Phytic Acid Supplementation in a Proof of Concept Pilot Study. *Curr Dev Nutr*. 2019 Apr 20;3(7):nzz057. doi: 10.1093/cdn/nzz057. eCollection 2019 Jul. PubMed PMID: 31218272; PubMed Central PMCID: PMC6571437.
7. Kurti S.P., Emerson S.R., Smith J.R., Rosenkranz S.K., Alexander S.A., Lovoy G.M., Harms C.A. Postprandial systemic 8-isoprostane increases after consumption of moderate and high-fat meals in insufficiently active males. *Nutr Res*. 2017 Mar;39:61-68. doi: 10.1016/j.nutres.2017.02.003. Epub 2017 Feb 4. PubMed PMID:28385290.
8. Teeman CS, Kurti SP, Cull BJ, Emerson SR, Haub MD, Rosenkranz SK*. Postprandial lipemic and inflammatory responses to high-fat meals: a review of the roles of acute and chronic exercise. *Nutr Metab (Lond)*. 2016 Nov 16;13:80. Review. PubMed PMID: 27891165; PubMed Central PMCID: PMC5112627.
9. Kurti SP, Rosenkranz SK, Emerson SR, Harms CA. (2016) Household Air Pollution Exposure and Influence of Lifestyle on Respiratory Health and Lung Function in Belizean Adults and Children: A Field Study. *Int J Environ Res Public Health*. 2016 Jun 28;13(7). pii: E643. doi: 10.3390/ijerph13070643. PubMed PMID: 27367712; PubMed Central PMCID: PMC4962184.
10. Cull BJ, Rosenkranz SK, Dziewaltowski DA, Teeman CS, Knutson CK, Rosenkranz RR. Wildcat wellness coaching feasibility trial: protocol for home-based health behavior mentoring in girls. *Pilot Feasibility Stud*. 2016 Jun 1;2:26. eCollection 2016. PubMed PMID: 27965845; PubMed Central PMCID: PMC5154020.
11. Emerson SR, Rosenkranz SK*, Rosenkranz RR, Kurti SP, Harms CA. The potential link between sugar-sweetened beverage consumption and post-exercise airway narrowing across puberty: a longitudinal cohort study. *Public Health Nutr*. 2016 Sep;19(13):2435-40. doi: 10.1017/S1368980015003109. Epub 2015 Oct 30. PubMed PMID: 26514591.

Complete List of Published Work in MyBibliography:

https://www.ncbi.nlm.nih.gov/myncbi/1-a3qeZ_nuqA7/bibliography/public/

Ongoing Research Support

- 2019–2021 Rosenkranz SK, Shi Y. Long-term consumption of Resistant Starch Type-4 (RS4): Implications for obesity and chronic disease. Submitted to the K-State Global Food Systems Seed Grant Program September 2019. Role: PI
- 2019–2021 Rosenkranz SK, Ade CJ. Integrated Cardiovascular and Metabolic Effects of Strawberry Consumption on Health Outcomes in Overweight and Obese Individuals. California Strawberry Commission. Role Co-PI
- 2018–2021 Rosenkranz SK, Buckwalter J. Bridges to the Future. National Institutes of Health (R25, GM119968-04). Role Co-PI

The overall goal of the Kansas Bridges to the Future program is to increase the number of underrepresented students with baccalaureate degrees in biomedical and behavioral sciences.

- 2018–2021 Shi, Yong-Cheng; Haub, Mark; Rosenkranz, Sara; Hamaker, Bruce. Developing Novel Starch-based Ingredients and Understanding Relationship between Structure and Digestibility of Starch. Submitted to United States Department of Agriculture; AFRI Foundational Program Improving Food Quality. Funded January 2018. Role: Co-Investigator. (Grant 12446901, 2017-07680).

University of Kansas – Lawrence: Vincent T. Francisco, PhD; Letter of Support



Life Span Institute
Center for Community Health
and Development

May 12, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor
Public Health Sciences
Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,

The Center for Community Health and Development is excited to confirm the support for the obesity health disparities research cluster at WSU. This cluster and the future research will directly improve our community by improving access to obesity education and using innovative modeling to address health disparities at a population level. The transdisciplinary approach for this study creates a strong team with a high likelihood for success. I am excited to be a member of the research cluster based on the team's previous experiences in transdisciplinary projects, data analysis, and established relationships with both community partners and industry leaders.

This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology. This study is a needed response to the identified health disparities in this geographic area and includes unique and innovative methodologies. Convergent science is a critical component of improving population health, addressing health disparities, and higher education.

The Center for Community Health and Development developed widely used capabilities for community-based participatory research and for building capacity for community work, including through the Community Tool Box and the Community Check Box. Recognition of these capabilities led to official designation in 2004 as a World Health Organization Collaborating Centre for Community Health and Development. The Center for Community Health and Development is affiliated with the Department of Applied Behavioral Science and the Schiefelbusch Institute for Life Span Studies at the University of Kansas. Since 1975, generations of Ph.D.-level

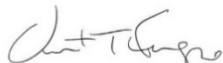
Dole Center
1000 Sunnyside Avenue
Suite 4082
Lawrence, KS 66045-7555

Office (785) 864-0533
Fax (785) 864-5281
Toll Free (866) 770-8162
communityhealth@ku.edu

communityhealth.ku.edu
ctb.ku.edu

researchers, graduate and undergraduate students, and professional staff have carried on, and found meaning in, this effort. The Center for Community Health and Development has many years of experience with community-based health disparities and obesity related funded research. I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding is important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration as a Kansas Board of Regents Institutional partner in the proposed research cluster.

Sincerely,



Vincent T. Francisco, Ph.D.
Kansas Health Foundation Professor of Community Leadership, Department of Applied Behavioral Science, and
Senior Scientist of the Schiefelbusch Institute for Life Span Studies
Director of the Center for Community Health and Development
(a World Health Organization Collaborating Centre)

University of Kansas – Lawrence: Vincent T. Francisco, PhD Biographical Sketch

PROFESSIONAL PREPARATION

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	Completion Date MM/YYYY	FIELD OF STUDY
Providence College, Providence, RI	B.A.	1986	Psychology/Philosophy
University of Kansas, Lawrence, KS	M.A.	1991	Human Development
University of Kansas, Lawrence, KS	Ph.D.	1995	Child and Developmental Psychology

APPOINTMENTS

- Kansas Health Foundation Professor of Community Leadership, Department of Applied Behavioral Science, College of Liberal Arts and Sciences, University of Kansas
- Senior Scientist of the Schiefelbusch Institute for Life Span Studies
- Director of the Center for Community Health and Development (a World Health Organization Collaborating Centre)

PUBLICATIONS

Wolff, T., Francisco, V. T., & Meissen, G. (2016). Special Issue of GJCPP on Practice Competencies in Community Psychology and Their Applications - Part 1. *Global Journal of Community Psychology Practice*, 7(4). (Invited)

Wolff, T., Minkler, M., Wolfe, S. M., Berkowitz, B., Bowen, L., Butterfoss, F. D., Christens, B., Francisco, V. T., Himmelman, A. T., & Lee, K. S. (2017). Collaboration for Equity and Justice: Moving beyond Collective Impact. *Non Profit Quarterly*. (Reviewed/Refereed)

Francisco, V. T., Wolff, T., & Meissen, G. (2017). Special Issue of GJCPP on Practice Competencies in Community Psychology and Their Applications - Part 2. *Global Journal of Community Psychology Practice*, 8(1). (Invited)

Egan, K. L., Wolfson, M., Dudley, W. N., Francisco, V. T., Strack, R. W., Wyrick, D. L., & Perko, M. A. (2018). Diffusion of medication drop-boxes in North Carolina from 2007 to 2016. *Addictive Behaviors*, 86(1), 44-50. <https://doi.org/10.1016/j.addbeh.2018.03.029> (Reviewed/Refereed)

Tanhan, A. & Francisco, V. T. (2019). Muslims and mental health concerns: A social ecological model perspective. *Journal of Community Psychology*, 47(4), 964-978. <https://doi.org/10.1002/jcop.22166> (Reviewed/Refereed)

Egan, K., Gregory, E., Wolfson, M., Perko, M., Francisco, V. T., Wyrick, D., & Strack, R. (2019). Disposal of prescription drugs by parents of elementary, middle, and high school students. *Journal of Child & Adolescent Substance Abuse*. <https://doi.org/10.1080/1067828X.2019.1590272> (Reviewed/Refereed)

Hassaballa, I., Davis, L., Francisco, V. T., Schultz, J., & Fawcett, S. B. (in press, 2021). Examining the implementation and effects of a comprehensive community intervention addressing Type 2 Diabetes among high-risk minority patients in Durham County, NC. *Journal of Prevention and Intervention in the*

Community, 49(1). (Reviewed/Refereed)

Kegler, M. C., Wolff, T., Christens, B., Butterfoss, F. D., Francisco, V. T., & Orleans, T. (2019). Strengthening our collaborative models for equity and justice. *Health Education and Behavior*, 46(1 suppl.), 5s-8s. <https://doi.org/10.1177/1090198119871887> (Reviewed/Refereed)

Christens, B. D., Butterfoss, F. D., Minkler, M., Wolff, T., Francisco, V. T., & Kegler, M. C. (2019). Learning from coalitions' efforts to promote equity and justice. *Health Education and Behavior*, 46(1 suppl.), 110s-114s. <https://doi.org/10.1177/1090198119871551> (Reviewed/Refereed)

Francisco, V. T. (2016) Section V. Academia and Higher Education; Chapter 15- Faculty: A funny thing happened on the way to the academy. In Olya Glantzman and Judah Viola, Diverse Careers in Community Psychology. London: Oxford University Press.

Suarez de Balcazar, Y., Francisco, V. T., & Jason, L. A. (2019). Behavioral community approaches (Chapter 8). In L. A. Jason, O. Glantzman, J. O'Brien, & K. N. Ramian (Eds.) *Introduction to Community Psychology*. <https://press.rebus.community/introductiontocommunitypsychology/>

Watson-Thompson, J., Francisco, V. T., Anderson-Carpenter, K. A. (under review). A behavioral-community approach to community health and development: Tools for collaborative action. In M. A. Mattaini & T. M. Cihon (Eds.) *Behavioral Science Perspectives on Culture and Community*. Portage, MI: Association for Behavior Analysis International.

RELEVANT EXPERIENCE/EXPERTISE

Dr. Vincent Francisco is Kansas Health Foundation Professor of Community Leadership in the Department of Applied Behavioral Science and Director of the Center for Community Health and Development <http://communityhealth.ku.edu/>, a World Health Organization Collaborating Centre at the University of Kansas. He is also a Senior Scientist with the Schiefelbusch Institute for Life Span Studies at KU. In my work, I use behavioral science methods to help understand and improve conditions that affect population health and health equity. I published widely in the areas of health promotion, capacity building, and community-based research and intervention. I am a co-inventor of the Community Tool Box <http://ctb.ku.edu/>, a widely used Internet-based resource for promoting community health and development. I bring expertise and experience to implementing community-based research, especially for prevention of HIV and chronic disease. I have years of experience mentoring undergraduate and graduate researchers and practitioners with community-based organizations throughout the United States and in other countries. I have considerable experience designing and implementing community-based and participatory HIV and sexual risk reduction interventions since I was a member of the Adolescent Medicine Leadership Group, Chair of the Community Prevention Leadership Group, and a member of the Executive Committee of the NIH Adolescent Trials Network for HIV/AIDS Interventions from 2003 through 2011. I have 11 years of experience in partnering with community-based organizations in North Carolina for applied health promotion research that includes access to health care, risk reduction for HIV and sexual risk reduction, mental health promotion, as well as capacity building for empowerment of marginalized groups, in addition to working with communities throughout the USA and internationally.

University of Kansas School of Medicine – Wichita , Michelle L. Redmond, PhD: Letter of Support



May 19, 2020

Rhonda K. Lewis, PhD, MPH
Professor and Chair
Psychology Department
1845 N. Fairmount, Box 34
Wichita State University
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Lewis,

I am pleased to write a letter to express my enthusiastic support of the Reducing Obesity among Vulnerable Populations with transdisciplinary research and education initiatives through the Obesity Health Disparities Research Cluster. This cluster and future research resulting from this initiative will directly impact community health by improving access to obesity education using innovative modeling to address health disparities at a population level. The transdisciplinary approach of the proposed study will create a strong foundation for team science to tackle obesity related health disparities at the population level. This team approach will no doubt foster a high likelihood of success based on team members previous experiences in transdisciplinary projects, data analysis, and credibility with community partners. I am therefore excited to be a member of the Obesity Health Disparities Research Cluster.

This project provides an opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology. By using convergent science, the purposed project will be able to identify novel solutions in reducing health disparities in this geographic area through the use of unique and innovative methodologies. These methodologies may include community-based interventions driven by biomedical engineering, improved technologies to address issues around telehealth, or even GIS mapping to understand population-based disparities in obesity. A transdisciplinary approach to disparities in obesity will pay dividends in improving health equity in this community.

Dr. Lewis, I have already had the privilege to collaborate with you on the eDECIDE study, where I serve as the Principal Investigator. The eDECIDE study, a web-based intervention funded through the National Institutes of Health to address African American disparities in diabetes self-management, is a good starting point for our two universities working together. From my perspective, the transdisciplinary approach of the proposed project will foster more collaborations, like the eDECIDE study as this cluster seeks future funding to address health disparities in our community.

Department of Population Health
|1010 N. Kansas | Wichita, KS 67214| (316) 293-1813| www.kumc.edu/pophealth

As a KBOR partner, I am fully committed to share expertise and collaborate on future activities and grant applications within this partnership. There is no doubt this funding is important for the improvement of health outcomes and health equity for the most vulnerable populations in Kansas and across the country. Therefore, I look forward to our future collaboration in efforts to improve health outcomes and reduce obesity related disparities within our community.

Sincerely,



Michelle L. Redmond, Ph.D., M.S.
Assistant Professor
Department of Population Health
University of Kansas School of Medicine-Wichita

University of Kansas School of Medicine – Wichita, Michelle L. Redmond, PhD:
Biographical Sketch

Redmond, Michelle L.
Page | 1

UNIVERSITY OF KANSAS SCHOOL OF MEDICINE
Academic Curriculum Vitae

Date April 27, 2020

1. PERSONAL DATA:

Full Name	Michelle L. Redmond	Degree(s)	PhD, M.S.
Current Academic Rank	Assistant Professor- Tenure Track		
Primary Department	Department of Population Health (Formerly Preventive Medicine & Public Health)		
Office Address	1010 N. Kansas Wichita 67214	Mailstop	
Office Phone	316-293-1813	Email	mredmond@kumc.edu

2. Professional Development:

A. Undergraduate and Graduate Education:

Years (inclusive)	Degree (course of study/major)	Institution
1996	BS	Fisk Univ.
2001	MS	Emporia State Univ.
2006	PhD	Wichita State Univ.

B. Postgraduate Education:

Years (inclusive)	Degree (I)	Institution
2006 - 2009	Post-Doctoral Fellowship	University of Michigan (Behavioral Health) & University of Michigan, Substance Abuse Research Center

C. Academic and Professional Appointments and Activities:

Month and Year	Position	Institution
July 1, 2013 – Present	Research Assistant Professor	Dept. of Preventive Medicine & Public Health
July 1, 2017- Present	Assistant Professor	Department of Population Health

3. RESEARCH AND SCHOLARLY ACTIVITIES:

1. Current Grants, Contracts and Clinical Trials:

Principal Investigator	Investigators	Title of Grant/Contract/Trial	Funding Source	Direct Costs/ Funding	Inclusive Years of Award
Michelle Redmond	Tracie Collins; Nicole Nollen;	Web-based Problem-solving Program for African Americans with Diabetes	National Heart, Lung, and Blood Institute	\$591,928	2018 - Present
Sharla Smith	Co-I: Michelle Redmond	Engaging Patients and Diverse Stakeholders of Color to Create Birth Equity: A Collaborative Effort	Patient Centered Outcomes Research Institute	\$220,000	2020 - 2022

4. Scholarly Publications (Peer-Reviewed):

- Lewis, R. K, Redmond, M. L, Paschal, A. M, Green, B. L (2005). Health behavior patterns of African Americans: Are we making progress towards the healthy people 2010 goals? *American Journal of Health Studies*, 20(3), 149-155.
- Lewis-Moss, R. K, Paschal, A. M, Redmond, M. L, Green, B. L, Carmack, C. (2008). Health attitudes and behaviors of African American adolescents. *Journal of Community Health*, 33(5), 351.
- Redmond, M. L, Galea, S., Delva, J. (2009). Examining racial/ethnic minority treatment experiences with specialty behavioral health service providers. *Community mental health journal*, 45(2), 85-96. PMC3747637, 18925436
- Lewis, R. K, Lee, F. A, Kirk, C. M, Redmond, M. L (2011). Substance use among African American adolescents in the Midwest. *Journal of prevention & intervention in the community*, 39(4), 289--298.
- Redmond, M. L, Lewis, R. K (2014). Are there gender differences in perceived sexual self-efficacy among African-American adolescents? *Journal of Health Disparities Research and Practice*, 7(5), 1.
- Ahlers-Schmidt, C. R, Redmond, M. L, Struempf, G., Hunninghake, J., Nimeskern, J. (2014). The role of cosmetologists as health promoters in the prevention of infant mortality. *Journal of community health*, 39(2), 285-90.
- Hines, R. B., Barrett, A., Twumasi-Ankrah, P., Broccoli, D., Engelman, K. K., Baranda, J., Ablah, E. A., Jacobson, L., Redmond, M., Tu, W., Collins, T. C. (2015). Predictors of Guideline Treatment Nonadherence and the Impact on Survival in Patients with Colorectal Cancer. *Journal of the National Comprehensive Cancer Network*, 13(1), 51-60.
- Redmond, M. L, Dong, F., Frazier, L. M (2015). Does the extended parallel process model fear appeal theory explain fears and barriers to prenatal physical activity? *Women's health issues: official publication of the Jacobs Institute of*

<i>Women's Health</i> , 25(2), 149-54. 25648489
9. Jacobson, L. T, Twumasi-Ankrah, P., Redmond, M. L. , et al. (2015). Characteristics associated with breastfeeding behaviors among urban versus rural women enrolled in the Kansas WIC program. <i>Maternal and child health journal</i> , 19(4), 828-39. 25047788
10. Jacobson, L. T, Dong, F., Scheuermann, T. S, Redmond, M. L. , Collins, T. C (2015). Smoking Behaviors Among Urban and Rural Pregnant Women Enrolled in the Kansas WIC Program. <i>Journal of community health</i> , 40(5), 1037-46. 25925718
11. Redmond, M. L. , Dong, F., Goetz, J., Jacobson, L. T, Collins, T. C (2016). Food Insecurity and Peripheral Arterial Disease in Older Adult Populations. <i>The journal of nutrition, health & aging</i> , 20(10), 989-995. 27925138
12. Thornhill-Scott, F., Redmond, M. L. , Dong, F., Ablah, E. (2016). Infant Mortality and SIDS Perceptions Among Key Healthcare Professional Informants in Sedgwick County, KS. <i>Journal of racial and ethnic health disparities</i> , 3(2), 357-64. 27271077
13. Thornhill-Scott, F., Dong, F., Redmond, M. , Ablah, E. (2017). Physician Practices Regarding SIDS in Kansas. <i>Clinical Pediatrics</i> , 56(8), 759-765.
14. Redmond, M. L. , Watkins, D. C, Broman, C. L, Abelson, J. M, Neighbors, H. W (2017). Ethnic and Gender Differences in Help Seeking for Substance Disorders Among Black Americans. <i>Journal of racial and ethnic health disparities</i> , 4(2), 308-316. PMC5085923, 27126010
15. Ahlers-Schmidt, C. R, Schunn, C., Redmond, M. L. , Smith, S., Brown, M., Kuhlmann, S. N, Engel, M., Benton, M. (2017). Qualitative Assessment of Pregnant Women's Perceptions of Infant Sleep Boxes. <i>Global pediatric health</i> , 4, 2333794X17744948. PMCS714071, 29226192
16. Redmond, M. L. , Dong, F., Twumasi-Ankrah, P., Hines, R. B, Jacobson, L. T, Ablah, E., Johnston, J., Collins, T. C (2018). Food insecurity and pre-hypertension, pre-diabetes in adult women: Results from the 2007-2010 National Health and Nutrition Examination Survey. <i>Journal of Health Disparities Research and Practice</i> , 11(1), 5.
17. Jacobson, L. T, Zackula, R., Redmond, M. L. , Duong, J., Collins, T. C (2018). Pioneer baby: suggestions for pre- and postnatal health promotion programs from rural English and Spanish-speaking pregnant and postpartum women. <i>Journal of behavioral medicine</i> , 41(5), 653-667. 29721813
18. Redmond, M. L. , Smith, S., Collins, T. C (2020). Exploring African-American womens' experiences with substance use treatment: A review of the literature. <i>Journal of community psychology</i> , 48(2), 337-350. PMC7032990, 31609461
19. Lewis, R. K, Thomas, G., Brown, K., Maryman, J., LoCurto, J., Ojeda-Leitner, D., Dean, A., Bey, A., Redmond, M L. (2020). Breast Cancer Treatment Experiences of Witness Project of Kansas Participants. <i>Journal of the National Medical Association</i> . <i>In press</i> .

5. **Presentations and Posters:**

A. Oral Paper Presentation: National and international paper presentations: Since 2019

1. Redmond, M. , Leverenz, T., Chaparro, B., Collins, T. C., 17th Biennial Meeting, "eDECIDE: Using Novel Technology to Deliver Problem-solving skills for Community Members living with Diabetes," Society of Community Research and Action, Chicago, IL, United States. (June 2019).

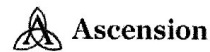
A. Poster Presentations: International, National, and Local poster presentations: Since 2015

1. Redmond, M. , Dong, F., Goetz, J., Jacobson, L., Collins, T., 38th Annual Meeting and Scientific Sessions, "Food insecurity Is Associated with Peripheral Arterial Disease in older adult populations," Society of General Internal Medicine, Toronto, Canada. (April 2015).
2. Jacobson, L., Grainger, D., Duong, J., Anderson, B., Redmond, M. , Collins, T., 37th Annual Meeting and Scientific Sessions, "Pioneer Baby: Moving toward a health promotion program among multicultural rural women to improve pregnancy outcomes," Society of Behavioral Medicine, Washington, DC, United States. (March 2016).*
3. Redmond, M. , Smith, S., Dancy, E., George, L., Owens, J., McGill, E., et al. 50th Annual Meeting, "Celebrate Day 366: Building a Community Initiative to Address African American Infant Mortality in Sedgwick County, Kansas," Association of Black Psychologist, Oakland, CA. (June 2018).
4. Nassim, G., Powell, S., Redmond, M. , Annual Meeting, "Understanding nutrition self-efficacy among older African American Women," Kanas Public Health Association, Wichita, KS, United States. (October 2018).

C. Media Presentations or Interviews

1. KWCH, Channel 12. Interview. "Are African Americans more susceptible to COVID-19, Doctors discuss alarming trend. https://www.kwch.com/content/news/Are-African-Americans-more-susceptible-to-COVID-19-Doctors-discuss-alarming-trend-569616321.html (April 1 2020)
2. Twitter. Participated in American Public Health Associations National Public Health Week Twitter Chat. (April 2019).
3. Reuter's Health. Newspaper interview on fruit, vegetable, and peripheral arterial disease prevalence. (May 2017).

University of Kansas School of Medicine – Wichita, Tracy Williams, MD, Letter of Support



May 21, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor, Public Health Sciences, Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,

We have had the opportunity to work together and collaborate on various research projects for the past several years. I am writing to confirm the support for the obesity health disparities research cluster at WSU. This cluster and the future research has the potential to improve our community by improving access to obesity education and using innovative modeling to address health disparities at a population level. The transdisciplinary approach for this study creates a strong team with a high likelihood for success. I am excited to be a member of the research cluster based on the team's previous experiences in transdisciplinary projects, data analysis, and established relationships with both community partners and industry leaders.

This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology. This study is a needed response to the identified health disparities in this geographic area and includes unique and innovative methodologies. Convergent science is a critical component of improving population health, addressing health disparities, and higher education.

The Department of Family Medicine at the University of Kansas School of Medicine - Wichita opened the Wichita campus in 1971 to provide hands-on clinical training to medical students in their third and fourth years. In 2011, KU School of Medicine expanded to a full, four-year campus, welcoming its first class of first-year medical students. The Wichita campus is community-based thanks to more than 1000 volunteer faculty. The Department of Family and Community Medicine educates medical students and residents through three residency programs including Via Christi Family Medicine. As a faculty member, I have experience in clinical research, health literacy, and health disparities. As a cluster member, we can develop a partnership with our clinical program and can provide the research cluster with access to direct patient care settings, potential research participants, and historical data for future research projects.

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding is important to address health disparities in our community and to improve research in the region.

Via Christi Family Medicine Residency / KU SOM – Wichita

Our mission is *"to teach comprehensive Family Medicine to residents of character who are called to serve the community with an emphasis on patient-centered care."*



I look forward to our future collaboration as a Kansas Board of Regents Institutional partner in the proposed research cluster.

Sincerely,

A handwritten signature in black ink that reads "Tracy Williams MD".

Tracy Williams, MD
Associate Professor, Family and Community Medicine, University of Kansas School of Medicine - Wichita

Via Christi Family Medicine Residency / KU SOM – Wichita
Our mission is *“to teach comprehensive Family Medicine to residents of character who are called to serve the community with an emphasis on patient-centered care.”*

University of Kansas School of Medicine – Wichita, Tracy Williams, MD: Biographical Sketch

Tracy L. Williams, MD
 707 N. Emporia, Wichita, KS 67214
 (316) 250-7250 – tracy.williams@ascension.org

EDUCATION

<i>Kansas State University, Manhattan, KS</i>	1994-1999
Bachelor of Science in Kinesiology	
Bachelor of Science in Foods and Nutrition	
<i>University of Kansas School of Medicine – Wichita, KS</i>	1999-2003
Doctor of Medicine	
<i>University of Washington School of Public Health – Spokane, WA</i>	2003-2004
Family Medicine Internship	
<i>University of Kansas School of Medicine – Wichita, KS</i>	2004-2006
Family Medicine Residency	
<i>Women’s Hospital – Greensboro, NC</i>	2006-2007
Obstetric and Women’s Health Fellow	
<i>University of North Carolina Faculty Development – Chapel Hill, NC</i>	2014-2015
Family Medicine Faculty Development Fellow	

Academic Positions

<i>Women’s Hospital –Greensboro, NC</i>	2007-2008
Junior Faculty for Moses Cone Family Medicine Residency	
<i>University of Kansas School of Medicine – Wichita Family Medicine Residency at Via Christi Hospitals</i>	2008-present
Director of Obstetrics for the Residency	
Associate Professor since 2017	

Professional Certifications

Board Certified in Family Medicine by the American Board of Family Medicine	2006-present
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HONORS & AWARDS

<i>Alpha Omega Honor Medical Society</i>	2011-present
<i>Via Christi Family Medicine Residency Program-Faculty Leadership Award</i>	2017-2018

RESEARCH EXPERIENCE

<i>Via Christi Family Medicine Residency Obstetric Group Visits</i>	
<i>Primary Investigator</i>	
University of Kansas Dean’s Research Fund \$1000	2011
March of Dimes \$2000	2012
Via Christi Partners in Caring \$5000	2013
<i>Cervical Cancer Initiative at Guadalupe Clinic</i>	
Women of Wichita Charitable Foundation \$15000	2016

Integrating Breastfeeding into Medical Education and Continuing Medical Education: a focus on medical students, residents and practicing family medicine physicians

Kansas Health Foundation: Kansas Breastfeeding Initiative \$100,000 2015-2018

Title V Grant: Community Collaborative Prenatal Education "Baby Talk"

Kansas Department of Health and Education \$342K year 1 2015-present

PUBLICATIONS

Peer Reviewed Journal Articles

Williams T. Hepatobiliary conditions: Nonalcoholic Steatohepatitis. *FP Essentials* 2011 Jan; 380:21-24.

Keene Woods N, Ahlers-Schmidt CR, Wipperman J, **Williams T.** Comparing Self-Reported Infant Safe Sleep From Community-and Health Care-Based Setting. *J Prim Care Community Health* 2015; Jul 6(3):205-210. PMID: [26066348](#)

Mortada R, **Williams T.** Metabolic Syndrome: Polycystic Ovary Syndrome. *FP Essentials* 2015 Aug;435:30-42. PMID: 26280343

Williams T. Metabolic Syndrome: Nonalcoholic Fatty Liver Disease. *FP Essentials* 2015 Aug;435:24-9. PMID: 26280342

Williams T, Mortada R, Porter S. Diagnosis and Treatment of Polycystic Ovary Syndrome *Am Fam Physician* 2016;94(2):106-113. PMID: [27419327](#)

Raleigh M, Wilson G, Moss D, Reineke-Piper K, Walden J, Fisher D, **Williams T,** Alexander C, Niceler B, Viera A, Zakrajsek T. Same Content, Different Methods: Comparing Lecture, Engaged Classroom, and Simulation. *Fam Med* 2018;50:100-105.

Wipperman J, Neil T, **Williams T.** Evaluation and Management of Cervical Cancer. *Am Fam Physician* 2018 Apr 1;97(7):449-454.

Curry A, **Williams T,** Penny M. Pelvic Inflammatory Disease. *Am Fam Physician* 2019; 100(6):357-364.

Book Chapters

The 5-Minute Clinical Consult 2015 Philadelphia: Wolters Kluwer Health.
Dysfunctional Uterine Bleeding Chapter

Conn's Current Therapy (editions 2012-2020)
Chlamydia Chapter

E. Innovation & Industrial Partners

1. Blue Cross Blue Shield of Kansas

Virginia Barnes, Director, Blue Health Initiatives

2. NetApp

Robin Huber, VP and GM, NetApp E-Series

3. YMCA

George Sorensen, Director, Steve Clark YMCA, WSU Innovation Campus

1. Blue Cross Blue Shield of Kansas



May 27, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor, Public Health Sciences
Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,

As the Director of Blue Health Initiatives, I am happy to support the WSU obesity health disparities research cluster on behalf of Blue Cross Blue Shield of Kansas (BCBSKS). As Kansas' largest and local health insurer, BCBSKS recognizes its unique position to work with Kansas communities to establish and sustain healthy environments and lifestyles. To shape a healthier future for Kansas, BCBSKS launched Blue Health Initiatives in 2016 to support communities in developing enduring solutions for our state's health challenges. The WSU research cluster and the proposed future research activities have the potential to greatly improve Kansas communities by using innovative modeling to address health disparities at a population level. I am enthusiastic about being a member of the WSU research cluster based on the future possibilities to collaborate and better meet the health needs of Kansas.

The research cluster's plan for engagement across disciplines and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology is a strength of the proposal and creates a high likelihood for success. Additionally, continued focus on addressing and preventing obesity in this geographic area using unique and innovative methodologies is needed in our State. Convergent science is a critical component of future community successes and addressing health disparities.

The partnership with BCBSKS brings expertise from an industry partner with a focus on population health. Blue Health Initiatives has a history of supporting research-based solutions that make Kansas a healthier place to live, work and play. The initiatives include a holistic approach that focuses on policies, systems and environments that impact health, including obesity in Kansas. BCBSKS has enjoyed a strong partnership with WSU's Community Engagement Institute to improve community health through our *Pathways to a Healthy Kansas* initiative since 2016, and a future partnership with the WSU research cluster is another exciting new opportunity to collaborate with the university. Potential collaborative activities in the future could include shared data and modeling, health education tools, and system-level approaches to addressing obesity health disparities.

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities such as grant applications. The proposed activities from this research cluster are important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration.

Sincerely,

A handwritten signature in black ink, appearing to read "Virginia Barnes".

Virginia Barnes, MPH
Director, Blue Health Initiatives
Blue Cross and Blue Shield of Kansas
Virginia.barnes@bcbsks.com

2. NetApp



www.netapp.com

May 29, 2020

Dear WSU Convergence Science Review Committee-

This letter is to confirm our commitment to participate on the WSU Convergence Science Team for Reducing Obesity among Vulnerable Populations through Transdisciplinary Research and Education.

NetApp is particularly interested in participating in this effort 1) to take advantage of resulting new data science methods for integrating very large disparate data through new sophisticated data mining, machine learning and statistical methods to create prediction models, new methods to identify significant inputs to machine learning models, and new biometrics for persons of color; 2) because we are committed to advancing women in technology; and 3) to recruit students graduating with cross disciplinary skills in data analytics and healthcare.

As a member of the Convergence Team, NetApp agrees to: 1) participate in quarterly team meetings; 2) provide expertise in solutions to large data storage and retrieval; 3) provide leadership mentoring of women faculty; and 4) contribute to proposals to external funding agencies (only if agreed upon and mutually beneficial).

Dr. Sheila O'Connor will represent our interests in this effort. She and Dr. Twomey have collaborated on a variety of projects to engage women in engineering and technology.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robin Huber', written over a light blue horizontal line.

Robin Huber
VP and GM - NetApp E-Series

Legal Reference

3. YMCA



May 12, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor, Public Health Sciences
Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,


I am happy to support the WSU obesity health disparities research cluster on behalf of the Steve Clark YMCA on the WSU Innovation campus. Our efforts are closely related as we both are working towards a healthier community. This cluster and the future research will directly improve our community by improving access to obesity education and by using innovative modeling to address health disparities at a population level. The transdisciplinary approach for this study creates a strong team with a high likelihood for success. The Steve Clark YMCA is excited to be a member of the research cluster based on the future possibility to collaborate and better meet the health needs of our community.

The research cluster's plan for engagement across disciplines and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology is a strength of the proposal. Additionally, continued focus on addressing and preventing obesity is needed in our community. Continued focus on the identified health disparities in this geographic area using unique and innovative methodologies are needed. Convergent science is a critical component of future community successes and addressing health disparities.

The support of the Steve Clark YMCA on the WSU innovation campus brings dozens of community and partner program sites which are places where the community comes together to connect, play, and discover new things. We offer comprehensive healthy living and learning experiences for all ages, from fitness equipment and team activities through low-cost affordable programs for the surrounding community. We're an association dedicated to empowering our larger community in so many ways. A future partnership with the WSU research cluster is an exciting new extension of our current programs. I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications.

The proposed activities from this research cluster are important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration.

Sincerely,



George Sorensen, Branch Director
STEVE CLARK YMCA

Greater Wichita YMCA – Steve Clark YMCA
2060 N. Mid-Campus Dr., Wichita, KS 67208
316-776-8370

F. WSU Internal Organizational Partners

1. **WSU Tech**, President - Sheree Utash Ed.D.
2. **Ulrich Museum of Art**, Leslie Brothers-Director
3. **Institute of Innovation**, Jeremy Patterson Ph.D
4. **Community Engagement Institute**, Scott Wituk, PhD, Director: extensive experience in community leadership, organizational capacity building, and applied research and evaluation methods. He works with numerous nonprofit and government organizations.
5. **WSU University Libraries**, Aaron Bowen, MA, Health Sciences Librarian: experience in health disparities systematic review manuscripts and existing health disparities data sets.

1. WSU Tech



May 26, 2020

Betty Smith-Campbell, PhD, APRN-CNS
Professor, School of Nursing
Wichita State University
1845 Fairmount St, Box 041
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Smith-Campbell,

I am writing to confirm the support of the WSU Tech for the obesity health disparities research cluster. This cluster and the future research and educational programs will directly improve our community by improving access to obesity education and using innovative modeling to address health disparities at a population level. I am excited to support this convergent science cluster.

This convergent science cluster would create the opportunity to develop programs unlike any others in the US. Most of the existing centers are housed in schools of medicine or health professions and are not truly interdisciplinary. By combining models from social science, health professions, and engineering to improve the ability to answer questions in all three areas, this project has the potential to provide students with a transdisciplinary education and unique opportunities to affect population health. One of the curriculum potentials include working with us (WSU Tech) to develop a certificate or minor in health delivery simulation.

I understand cluster support members will attend meetings as needed, share expertise, and collaborate on future activities and grant applications. This funding is important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration.

Sincerely,

A handwritten signature in black ink that reads 'Sheree Utash'.

Sheree Utash Ed.D.
President



2. Ulrich Museum of Art

From:
To:
Subject:

From: Brothers, Leslie <leslie.brothers@wichita.edu>
Sent: Wednesday, June 3, 2020 12:35 PM
To: Twomey, Janet <janet.twomey@wichita.edu>
Subject: Re: WSU Health Obesity Disparities Convergence Science Research Cluster Team Invitation

Yes – thanks -

Leslie A Brothers
Director
Ulrich Museum of Art

Wichita State University
1845 Fairmount Street
Wichita, KS 67260-0046

316.978.3017
ulrich.wichita.edu

From: "Twomey, Janet" <janet.twomey@wichita.edu>
Date: Wednesday, June 3, 2020 at 11:42 AM
To: "Brothers, Leslie" <leslie.brothers@wichita.edu>
Subject: WSU Health Obesity Disparities Convergence Science Research Cluster Team Invitation

Leslie Brothers
Director of the Ulrich Museum of Art
Wichita State University

Dear Director Brothers -

I am writing to you as a member of the *WSU Health Obesity Disparities Convergence Science Research Cluster* team to invite you to support our effort in establishing a network of multidisciplinary researchers, and stakeholders. Our community will collectively advance the transdisciplinary research and education objectives of the cluster through the exchange of ideas, development of fundamental research directions and proposals to external agencies, and exploration of ways to translate results from research to practice (see summary below).

Your research in rethinking the University Art Museum as an innovative center for developing new models for civic engagement is perfectly aligned with our research goals. We plan to develop a

museum interactive exhibit, much like MOD, to communicate our findings to affected communities and policy makers.

As a cluster member, you will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications.

If you agree to participate in our cluster activities, please reply to this email with a YES.

Best regards – Jan

Janet M. Twomey, PhD
Associate Dean for Graduate Education, Research and Faculty Development
College of Engineering
Professor, Industrial, Systems, and Manufacturing Engineering
Board of Directors, Environmental Genome
<http://www.wichita.edu/jtwomey>
<https://environmentalgenome.org/>

3. Institute of Innovation

From: [Patterson, Jeremy](#)
To: [Twomey, Janet](#)
Subject: Re: WSU Health Obesity Disparities Convergence Science Research Cluster Team Invitation
Date: Tuesday, June 2, 2020 1:10:55 PM

Yes, absolutely

On Jun 2, 2020, at 1:08 PM, Twomey, Janet <janet.twomey@wichita.edu> wrote:

Jeremy Patterson, PhD
Dean, Interim Executive Director for Innovation & New Ventures
Institute For Interdisciplinary Innovation

Dear Dean Patterson -

I am writing to you as a member of the [WSU Health Obesity Disparities Convergence Science Research Cluster](#) team to invite you to support our effort in establishing a network of multidisciplinary researchers, and stakeholders. Our community will collectively advance the transdisciplinary research and education objectives of the cluster through the exchange of ideas, development of fundamental research directions and proposals to external agencies, and exploration of ways to translate results from research to practice (see summary below).

Your expertise in product design and position as the Dean of the Institute For Interdisciplinary Innovation will significantly enhance our efforts in addressing the issues of obesity in vulnerable populations.

As a cluster member, you will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications.

If you agree to participate in our cluster activities, please reply to this email with a YES.

You are welcome to make any adjustment to the statement in **RED** as you deem necessary.

Best regards – Jan

Janet M. Twomey, PhD
Associate Dean for Graduate Education, Research and Faculty Development
College of Engineering
Professor, Industrial, Systems, and Manufacturing Engineering
Board of Directors, Environmental Genome
<http://www.wichita.edu/ITwomey>
<https://environmentalgenome.org/>

4. Community Engagement Institute



May 8, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor, Public Health Sciences, Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,

I am writing to confirm the support of the Community Engagement Institute (CEI) for the obesity health disparities research cluster. This cluster and the future research will directly improve our community by improving access to obesity education and using innovative modeling to address health disparities at a population level. The transdisciplinary approach for this study creates a strong team with a high likelihood for success. I am excited to be a member of the research cluster based on the team's previous experiences in transdisciplinary projects, data analysis, and established relationships with both community partners and industry leaders.

This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology. This study is a needed response to the identified health disparities in this geographic area and includes unique and innovative methodologies. Convergent science is a critical component of future community successes, addressing health disparities, and higher education.

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. Dedicated to Kansas for over 35 years, the goal of the Community Engagement Institute (CEI) is to promote best practices in organizations and communities interested in improving people's lives and foster connections with community partners looking to create positive change. CEI accomplishes this goal by partnering with communities and organizations to strengthen Kansas through education, leadership development, facilitation, project management, and research.

This funding is important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration.

Sincerely,

A handwritten signature in black ink that reads 'Scott Wituk'.

Scott Wituk, PhD
Executive Director
Community Engagement Institute
Wichita State University

COMMUNITY ENGAGEMENT INSTITUTE
CEIcontact@wichita.edu / <http://communityengagementinstitute.org/>

5. WSU University Libraries

From: [Bowen, Aaron](#)
To: [Keene Woods, Nikki](#)
Subject: Re: Research Cluster Invitation
Date: Tuesday, May 26, 2020 3:20:29 PM
Attachments: [image001.png](#)
[Biosketch -- Aaron Bowen.pdf](#)

Awesome! Thanks for the invite -- I'm in!
Aaron

From: Keene Woods, Nikki
Sent: Tuesday, May 26, 2020 3:01:28 PM
To: Bowen, Aaron
Subject: Research Cluster Invitation

Hello!

In response to the President's Convergence Sciences initiative, I am part of a growing research cluster working on obesity and health disparities. The team has included both health literacy and health disparities as the focus of the proposal. The first year would be data gathering and analysis. I think the library could help with find existing data sources for the analysis.

It would be great to include you in the research cluster! Below is a brief summary and the team so far, please keep the information confidential. If you are interested in joining, I will need a quick email stating your interest in joining the team as a research cluster member, and a two-page CV by June 2nd.

Project Summary -

Health disparities and differential access to health care often are related to social determinants such as gender, race, ethnicity, socioeconomic status, sexual orientation, education, etc., particularly those characteristics historically linked to discrimination. The overall problem addressed by this convergence cluster is the health and wellness of vulnerable populations through transdisciplinary approach to research that seeks to determine the interaction between social and ecological factors (social determinants of health), individual behavior, and (genetics) as they combine to impact health and promote wellness. The three-year objective of this proposal is to apply the transdisciplinary research approach to effect the growing obesity epidemic in ethnic and racial minority populations. Obesity in minority populations is a significant and complex health and societal challenge, that requires the convergence of social, medical and technical fields of study (namely the fields of study associated with cluster researchers' members: Public health, social science, psychology, gerontology, system engineering, computer science engineering, health promotion, social determinants/health disparities, healthcare delivery systems, health literacy, prediction modeling, simulation, and advanced digital and data science. The transdisciplinary research approach together with a transdisciplinary curriculum will result in future opportunities to develop educate a healthcare workforce. The three-year research outcome will result in new knowledge and technology that will generalize to other health conditions exacerbated by social and ecological factors in minority populations. The knowledge gained from the focus on obesity findings can be extended to apply to other areas of health disparities for future projects.

PI - Twyla Hill (sociology)
Cluster directors - Betty Smith-Campbell (nursing), Janet Twomey (engineering)
Co-Investigators – Nikki Keene Woods (public health), Laila Cure (engineering), Ajita Rattani (engineering), Rhonda Lewis (community psychology)
Cluster Members – Rachel Showstack (Spanish and linguistics), Scott Wituk (CEI)

Please let me know if you have any questions. Appreciate your time!

Nikki

Nikki Keene Woods, PhD, MPH
Associate Professor
Department of Public Health Sciences
Wichita State University
1845 Fairmount St., Box 43
Wichita, KS 67260-0043
Telephone: (316) 978-3060
Fax: (316) 978-3072



<http://womenshealthks.com/>

G. WSU Internal Faculty and Student Partners

Whitney Bailey, MEd, LAT, ATC (CAS-Exercise Science) Clinical Education Coordinator, School of Applied Learning, Department of Human Performance Studies. Has a master's degree in Exercise Science. Has a multitude of contacts for the secondary schools within USD 259, USD 266, and USD 262.

Amy Chesser, PhD, MA (CHP-Health Communications) Associate Professor of Public Health Sciences. Her primary research interests are health communication, health literacy, health equity, and older adults. She has expertise in writing large grants from federal organizations. She is also the co-director of the WSU Center for Health Equity.

Cheyla Clawson, MFA (College of Fine Arts-Dance) Assistant Professor of Dance and Coordinator of Assessment and Research in the School of Performing Arts, focuses on immersive community arts which promote social dialogue and well-being. She also has expertise in integrating arts into rural communities.

Nicole Delimont, PhD, APRN-FNP (CHP-Nutrico-pharmacological interventions) Assistant Professor, School of Nursing. Has experience is collaborating with KBOR partners at KSU. She has worked on integration of nutritional assessment and management of patients with chronic disease. Her research focus: micronutrient bioavailability and improvement of emergency & supplementary foods for children.

Amy Drassen Ham, PhD, MPH, MA (CHP-Medical Anthropologist) Clinical Professor, Public Health Sciences. Her expertise adds culturally-informed care education and research to the cluster. She has many years of experience in transdisciplinary education and research.

Nils Hakansson, PhD, (Engineering, Biomedical) Associate Professor, Biomedical Engineering. Has expertise in biomechanics, and has led the development of wearable sensor technologies, *HealthLink*. His involvement will significantly enhance our cluster's ability for success.

Mythili Menon, PhD (LAS-English and Linguistics) Assistant Professor of English and Linguistics. Will contribute linguistic expertise in the area of health disparities.

Rachel Showstack, PhD (LAS-Spanish and Linguistics) Associate Professor. She has expertise in language access health disparities, external funding and community development with the Latino community.

Whitney Bailey, MEd, LAT, ATC (CAS-Exercise Science) Clinical Education Coordinator, School of Applied Learning, Department of Human Performance Studies.

BaileyW. Support CAS - Smith-Campbell, Betty

<https://mail.wichita.edu/owa/#viewmodel=ReadMessageItem&ItemID...>

BaileyW. Support CAS

Smith-Campbell, Betty

Fri 5/22/2020 10:31 AM

To: Smith-Campbell, Betty <Betty.Smith-Campbell@wichita.edu>;

From: Bailey, Whitney
Sent: Thursday, April 23, 2020 11:37 AM
To: Smith-Campbell, Betty
Subject: Re: Question and an FYI

Hi Betty –

Yes, I would be happy to participate as I am able. I have a multitude of contacts for the secondary schools within USD 259, USD 266, and USD 262. Liz Roberts (Elizabeth.roberts@wichita.edu) is the TAP Clinical Educator and Success Coach and has contacts with the school systems at the primary level.

My expertise is in Athletic Training but I also have a Master's degree in Exercise Science (specifically biomechanics). If you feel like there would be a best fit for me in this project, I would be more than willing to assist!

Please let me know your thoughts!

Thank you,

Whitney Bailey, MEd, LAT, ATC
Clinical Education Coordinator, Athletic Training Program
Department of Human Performance Studies
Wichita State University
1845 Fairmount Street
Box 16
Wichita, KS 67260
Office: (316) 978-3343
Fax: (316) 978-5451
whitney.bailey@wichita.edu
www.wichita.edu/athletictraining



Amy Chesser, PhD, MA (CHP-Health Communications) Associate Professor of Public Health Sciences.



May 18, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor, Public Health Sciences, Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,

I am so proud to say that we have had the opportunity to work together and collaborate on various research projects over the past 11 years. In that time, we have demonstrated success with research, publications and receiving external funding. Your work with the proposed Obesity Health Disparities Research Cluster at WSU is a natural extension of our previous research. This cluster is led by a team of women with a strong history of success and mentoring. The proposed future research will improve both the health of our community and the research capabilities of the WSU community. The additional research this cluster could support who be an enhancement to curriculum and is likely to secure external funders.

I am happy to be a member of the research cluster based on the team's previous experiences in transdisciplinary projects, data analysis, and established relationships with both community partners and industry leaders. This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, Sociology, and Spanish/Linguistics. This study is a needed response to the identified health disparities in this geographic area and includes unique and innovative methodologies. Convergent science is a critical component of future community successes, addressing health disparities, and higher education.

I am an Associate Professor of Public Health Sciences, receiving my PhD in Health Communication. My areas of interest in research and teaching include Health Disparities, Health Literacy, Older Adults, and Women's Health. I am excited to participate in the research cluster and fill an identified cluster gap related to health literacy and experience with externally funded projects. The potential to develop a course or certificate program in Health Literacy aligns with my expertise and is a needed addition to the WSU curriculum. I strongly support the development of this much-needed certificate program!

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding and the proposed Research Cluster is important to address growing health disparities in our community, across Kansas, and the United States. Additionally, the ability to mentor junior faculty and students from across disciplines is a strength of the proposal. I look forward to future transdisciplinary opportunities to collaborate.

Sincerely,

A handwritten signature in black ink that reads 'Amy K. Chesser, PhD'.

Amy Chesser, PhD, MA
Associate Professor in Public Health Sciences, Wichita State University

Cheyly Clawson, MFA (College of Fine Arts-Dance) Assistant Professor of Dance and Coordinator of Assessment and Research in the School of Performing Arts.



MEMORANDUM

May 28th, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor, Public Health Sciences
Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,

I am writing this letter to support the project focused on the obesity health disparity research cluster. This research is important to support access to obesity education and to further understand the needs in the community. In order to truly understand and impact the community through applied research, I am excited about the opportunity to develop embodied research and practice for physical well-being. The importance of physical integration of research is often overlooked and is imperative in any study focused on the body and long-term health.

This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, Sociology and Dance. This study is a needed response to the identified health disparities in this geographic area using unique and innovative methodologies. Convergent science is a critical component of future community successes and addressing health disparities. Dance and movement are creative and important means of taking theoretical frameworks and turning them into applied education for communities. Creating a movement program addressing embodied modalities to enhance health and obesity awareness is both innovative and collaborative.

I understand members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding is important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration.

Sincerely,
Cheyly Clawson
Assistant Professor of Dance – Wichita State University
School of Performing Arts Coordinator of Assessment and Research - Wichita State University
MA – Sociology – Wichita State University
MFA – Modern Dance – University of Oklahoma

Nicole Delimont, PhD, APRN-FNP (CHP-Nutrico-pharmacological interventions) Assistant Professor,
School of Nursing.

Delimont, Nicole Nutrition - Smith-Campbell, Betty

<https://mail.wichita.edu/owa/#viewmodel=ReadMessageItem&ItemID...>

Delimont, Nicole Nutrition

Smith-Campbell, Betty

Wed 6/3/2020 1:00 PM

To: Smith-Campbell, Betty <Betty.Smith-Campbell@wichita.edu>;

From: Delimont, Nicole

Sent: Wednesday, April 15, 2020 5:00 PM

To: Smith-Campbell, Betty

Subject: RE: Seeking Information.

Hi Betty,

Things are good!

1. Great! The project is in collaboration with the Greater Wichita YMCA and WSUTech, and aims to explore the effectiveness of kitchen-based, nutritional education for students enrolled in a healthcare discipline and practicing healthcare providers to further develop knowledge of healthy diet and cooking skills on behalf of recipients of healthcare services in South Central Kansas. We're working to increase healthy behavior knowledge of those healthcare workers in a food-forward nutritional education program. By introducing clinicians to the kitchen as teachers, we hope to have 1) improved translational skills for clinicians talking to patients about nutrition and health and 2) enhanced community engagement of both healthcare workers and community dwellers in health and nutrition. We're using the framework of an already in place program at the YMCA: Cooking Matters to enhance healthcare worker and student knowledge geared toward Cooking Matters program targets: low income families with children. This program will also address a current community need, which is engaging more areas of South Central Kansas in Cooking Matters courses.

By the way, I feel like this program could translate really well into your potential grant services.

2. And yes, I'll send another email connecting you to Sara and Ric Rosenkranz at KSU, who are already doing quite a bit of public health-related obesity work.

Let me know how I can help moving forward!

Nicole

Nicole Delimont, PhD, APRN, NP-C
Assistant Professor, School of Nursing
College of Health Professions
Wichita State University

Amy Drassen Ham, PhD, MPH, MA (CHP-Medical Anthropologist) Clinical Professor, Public Health Sciences.



May 21, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor, Public Health Sciences, Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,

I am writing to endorse the Obesity Health Disparities Research Cluster at Wichita State University (WSU). This work is a natural extension of my professional activities. This cluster is led by a team of women with a strong history of success and mentoring. The proposed future research will improve the health of our community as well as the and research capabilities of the WSU community. As described, this research is prepared to enhance the curriculum at WSU and is likely to secure external funders.

I am excited to be a member of the research cluster based on the team's previous experiences in transdisciplinary projects, data analysis, and established relationships with community partners and industry leaders. This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, Sociology, and Spanish Linguistics. This study includes unique and innovative methods to address identified health disparities gaps in this geographic area -- such complex problems that can only be addressed through collaborative and convergent efforts.

I am a medical anthropologist and Clinical Professor of Public Health Sciences, receiving my PhD in Anthropology from University of Kansas and a Master of Public Health from Wichita State University in association with the University of Kansas. I began teaching at WSU in 1997 and am committed to continuous quality improvements to the WSU curriculum. My areas of interest in research and teaching include culturally informed, person-centered care and health disparities. I'm eager to participate in the research cluster and fill an identified cluster gap related to culturally informed health care education, curriculum development and delivery, and public health. The potential to develop a transdisciplinary graduate degree program aligns with my expertise and would be an enhancement to the WSU curriculum.

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding and the proposed research cluster is important to address growing health disparities in our community, across Kansas, and the United States. Additionally, the ability to mentor junior faculty and students from across disciplines is a strength of the proposal. I look forward to future transdisciplinary opportunities to collaborate.

Sincerely,

Amy Drassen Ham, PhD, MPH
Clinical Professor in Public Health Sciences
Wichita State University

Nils Hakansson, PhD, (Engineering, Biomedical) Associate Professor, Biomedical Engineering.

From: [Hakansson, Nils](#)
To: [Twomey, Janet](#)
Subject: Re: WSU Health Obesity Disparities Convergence Science Research Cluster Team Invitation
Date: Tuesday, June 2, 2020 1:26:39 PM

Yes

From: "Twomey, Janet" <janet.twomey@wichita.edu>
Date: Tuesday, June 2, 2020 at 12:19 PM
To: "Hakansson, Nils" <Nils.Hakansson@wichita.edu>
Subject: WSU Health Obesity Disparities Convergence Science Research Cluster Team Invitation

Nils Hakansson, PhD
Associate Professor, Biomedical Engineering
Wichita State University

Dear Dr. Hakansson -

I am writing to you as a member of the [WSU Health Obesity Disparities Convergence Science Research Cluster](#) team to invite you to support our effort in establishing a network of multidisciplinary researchers, and stakeholders. Our community will collectively advance the transdisciplinary research and education objectives of the cluster through the exchange of ideas, development of fundamental research directions and proposals to external agencies, and exploration of ways to translate results from research to practice (see summary below).

Your expertise in biomechanics, plus your leadership in the development of wearable sensor technologies, *HealthLink*, will significantly enhance our cluster's ability for success.

As a cluster member, you will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications.

If you agree to participate in our cluster activities, please reply to this email with a YES.

Best regards – Janet

Janet M. Twomey, PhD
Associate Dean for Graduate Education, Research and Faculty Development
College of Engineering
Professor, Industrial, Systems, and Manufacturing Engineering
Board of Directors, Environmental Genome
<http://www.wichita.edu/jtwomey>
<https://environmentalgenome.org/>

Mythili Menon, PhD (LAS-English and Linguistics) Assistant Professor of English and Linguistics.



May 19, 2020

Rhonda K. Lewis, PhD, MPH
Professor and Chair
Psychology Department
1845 N. Fairmount, Box 34
Wichita State University
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Lewis,

I am writing to confirm the support of the Reducing Obesity among Vulnerable Populations through Transdisciplinary Research and Education Initiative for the obesity health disparities research cluster. This cluster and the future research will directly improve our community by improving access to obesity education and using innovative modeling to address health disparities at a population level. The transdisciplinary approach for this study creates a strong team with a high likelihood for success. I am excited to be a member of the research cluster based on the team's previous experiences in transdisciplinary projects, data analysis, and credibility with community partners.

This project provides the opportunity for transdisciplinary engagement and education of researchers, practitioners and students from Community Psychology, Engineering, Nursing, Public Health, and Sociology. This study is a needed response to the identified health disparities in this geographic area using unique and innovative methodologies. Convergent science is a critical component of future community successes and addressing health disparities.

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding is important to improve the health of the most vulnerable populations in Kansas and across the country. I look forward to our future collaboration.

Sincerely,



Mythili Menon, Ph.D.

Assistant Professor of English and Linguistics

Department of English

Rachel Showstack, PhD (LAS-Spanish and Linguistics) Associate Professor.



May 12, 2020

Nikki Keene Woods, PhD, MPH
Associate Professor, Public Health Sciences, Wichita State University
1845 Fairmount St
Wichita, KS 67260

RE: WSU Health Obesity Disparities Convergence Science Research Cluster

Dear Dr. Keene Woods,

I am delighted to write a letter in support of the Obesity Health Disparities Research Cluster at WSU. This cluster is led by a team of women with a strong history of scholarly work, a profound awareness of the social inequities that lead to persistent health disparities, and a commitment to mentoring graduate and undergraduate students. The proposed future research will directly support our community by improving access to obesity education and using innovative engineering modeling to address health disparities at a population level. This study is a needed response to the identified health disparities in this geographic area and includes unique and innovative methodologies. The transdisciplinary approach for this study creates a strong team with a high likelihood for success in engaging students and stakeholders and bringing in funding for the university

I am excited to be a member of the research cluster based on the team's previous experiences in transdisciplinary projects, data analysis, and established relationships with both community partners and industry leaders. I am an Associate Professor of Spanish, having received my PhD in Hispanic Linguistics from the University of Texas at Austin and an MA in Spanish from Sacramento State. My areas of interest in research and teaching include Spanish as a heritage language, language ideologies, language and healthcare, and community-based language education. My experience in stakeholder engagement for patient-centered outcomes research with Latino communities and my extensive collaboration with colleagues in the College of Health Professions and across LAS place me in a strategic position to build community and student involvement in this research cluster and fill an identified gap related to health care language access.

I understand cluster members will attend quarterly meetings, share expertise, and collaborate on future activities and grant applications. This funding and the proposed research cluster is important to address growing health disparities in our community, across Kansas, and the United States.

Sincerely,

A handwritten signature in black ink that reads 'Rachel Showstack'.

Rachel Showstack, PhD
Spanish Division Director & Associate Professor of Spanish
Modern and Classical Languages and Literatures, Wichita State University

1845 Fairmount, Jardine Hall | Wichita, Kansas 67260-0043

H. Budget

Table 6. Full Proposal Budget

PI: Twyla Hill		Year 1	Year 2	Year 3	Total
Key Personnel					
PI: Twyla Hill		\$ 8,864	\$ -	\$ -	\$ 8,864
PI Fringes:	0.18379	\$ 1,630	\$ -	\$ -	\$ 1,630
Co-PI: Laila Cure		\$ -	\$ 8,492	\$ -	\$ 8,492
Fringes:	0.18379	\$ -	\$ 1,561	\$ -	\$ 1,561
Co-PI: Nikki Keene Woods		\$ -	\$ 6,771	\$ -	\$ 6,771
Fringes:	0.18379	\$ -	\$ 1,244	\$ -	\$ 1,244
Co-PI: Ajita Rattani		\$ 8,265	\$ -	\$ -	\$ 8,265
Fringes:	0.18379	\$ 1,519	\$ -	\$ -	\$ 1,519
Co-PI: Rhonda Lewis		\$ -	\$ -	\$ 11,672	\$ 11,672
Fringes:	0.18379	\$ -	\$ -	\$ 2,145	\$ 2,145
Sr Advisor Twomey		\$ -	\$ -	\$ -	\$ -
Fringes:	0.18379	\$ -	\$ -	\$ -	\$ -
Sr Advisor Smith-Campbell		\$ -	\$ -	\$ -	\$ -
Fringes:	0.18379	\$ -	\$ -	\$ -	\$ -
Total Key Personnel		\$ 20,278	\$ 18,068	\$ 13,817	\$ 52,163
Other Personnel					
GRA Salary - Academic Year:		\$ 36,048	\$ 37,129	\$ 38,243	\$ 111,420
GRA Fringes	0.011	\$ 397	\$ 408	\$ 421	\$ 1,226
Insurance		\$ 3,192	\$ 3,288	\$ 3,387	\$ 9,867
GRA Salary - Summer:		\$ 10,814	\$ 11,138	\$ 11,472	\$ 33,424
GRA Fringes	0.011	\$ 119	\$ 123	\$ 126	\$ 368
Insurance		\$ 639	\$ 658	\$ 678	\$ 1,975
Undergrad Salary		\$ -	\$ -	\$ -	\$ -
Undergrad Fringes	0.011	\$ -	\$ -	\$ -	\$ -
Total Other Personnel		\$ 51,209	\$ 52,744	\$ 54,327	\$ 158,280

Total Salaries		\$ 63,840	\$ 63,520	\$ 61,387	\$ 188,747
Total Fringes		\$ 7,467	\$ 7,281	\$ 6,757	\$ 21,505
Total Salaries & Fringes		\$ 71,307	\$ 70,801	\$ 68,144	\$ 210,252
Total Equipment		\$ -	\$ -	\$ -	\$ -
Total Travel		\$ 6,000	\$ 6,000	\$ 6,000	\$ 18,000
Other Expenses					
Tuition Remission		\$ 6,904	\$ 7,111	\$ 7,324	\$ 21,339
Tuition Remission - Engineering		\$ 15,609	\$ 16,077	\$ 16,559	\$ 48,245
Project end workshop		\$ -	\$ -	\$2,145	\$ 1,506
Total Other Expenses		\$ 22,513	\$ 23,188	\$ 25,389	\$ 71,090
Total Costs		\$ 100,000	\$ 100,000	\$ 100,000	\$ 300,000

(link to proposal [Section E. Budget and ROI](#))

I. Curriculum

Occupational Pay and Predicted Job Growth

Broad categories from the Bureau of Labor Occupational Employment Statistics were used to determine median wages and employment growth rate because the numbers of people employed in interdisciplinary job categories tend to be small. Also, these fields are developing very quickly, and new jobs are being created for which we do not yet have titles or information. The following occupations provide illustrations for fields our students would enter. Medical and Health Services Managers earn on average \$100,980, although we might expect those who work for nonprofits to make somewhat less. However, predicted job growth in this field is 18%, much larger than for most occupations. Community Services Managers also have an 18% job growth rate and median pay is just over \$64,000. Epidemiologists make on average \$70,990. The BLS website predicts job growth at 5%, although given the pandemic that number seems outdated. The median pay of Biomedical Engineers is \$91,410, with a predicted job growth of 4%. Health and Safety Engineers also have a median pay of \$91,410 and a predicted job growth of 5%, but again that prediction may be outdated. Operations Research Analysts have a 26% predicted job growth and earn on an average \$84,810 annually. (All numbers are from 2019; all statistics are from bls.gov/ooh)

Curriculum Development

Phase I:

Undergraduate Certificate in Health Literacy – (students select 4 courses, at least one from each college). List of courses: HP 105 Introduction to Public Health, PHS 356 Introduction to Health Policy and Administration, PHS 410 Health Communication, PHS 413 Introduction to Social and Behavioral Aspects of Public Health, SOC 337 Young Women’s Health, SOC 338 Health and Lifestyle, SOC 399 AD Sociology of Mental Disorders, SOC 537 Social Consequences of Disability, SOC 538 Medical Sociology, PSY 514 Psychology of Health and Illness, AGE 422 Introduction to Public Health and Aging, SPAN 559 Spanish for the Health Professions, other courses as identified.

Graduate Certificate in Health Data Analytics - (students select 4 courses, at least one from each college). List of courses: PHS 808 Epidemiology, PHS 814 Social and Behavioral Aspects of Public Health (or NSG 902 Population and Social Determinants of Health), SOC 713 Statistics for Social and Behavioral Sciences, SOC 801 Application of Advanced Statistical Techniques, SOC 811 Advanced Research: Quantitative Methods, SOC 812 Advanced Research: Qualitative Methods, PSY 943 Seminar in Prevention, PSY 941 Applied Research Methods, IME 734 Introduction to Data Mining and Analytics, DS 890 Introduction to Data Visualization, CS 898BA Image Analysis and Computer Vision, CS 697AB Machine Learning, other courses as identified.

Phase II:

Bachelor of Science in Public Health Engineering - A public health engineer is responsible for designing tools and systems or developing new policies and procedures that help prevent others from being sick or injured. They may find employment in a government agency, but often work in the private sector as well where they focus their attention on a single company.

This degree primarily would use classes that are already being taught, but we would develop team-taught interdisciplinary core courses to bolster the convergence science aspect as well as a health literacy specific course. These courses would ensure students would put convergence into practice, rather than

maintaining disciplinary boundaries, and be culturally competent. Students would complete required core coursework, including the new health literacy course, followed by elective work from all colleges. The completion of the interdisciplinary required classes would create a cohort experience for the students as well as facilitating the mentoring process.

Phase III:

A Transdisciplinary PhD – This degree would be a mixture of new courses with those already being taught. A transdisciplinary curriculum will be created to educate a future workforce of healthcare providers with expertise to apply data analytics for the purpose of increasing health literacy in the social determinants of health. These students would be at the forefront of the converging fields of Engineering, Health Professions, and Social Sciences. We hope to partner with the Institute for Interdisciplinary Innovation (III) and the College of Applied Studies at this stage.

(link to proposal [Section G. Curricular Implications](#))

J. References

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Yancy, C.W. (2020). COVID-19 and African Americans. *JAMA*. 2020;323(19):1891-1892.
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**WSU OFFICE OF RESEARCH
PROPOSAL ROUTING FORM**

Prop #

MAC USERS: Please fill complete using the latest version of Adobe Reader

GDS:

FINAL proposals are due a MINIMUM of 3 days prior to the Agency Deadline

Paper submissions which include cost share and/or waived indirects require additional processing time.

Principal Investigator (PI): Agency Deadline:

Sponsor/Agency: Solicitation #:

Project Title:

Period From: To:

	YEAR ONE	TOTAL PERIOD
Direct Costs:	\$99,820.00	\$299,342.00
Indirect Costs:	\$0.00	\$0.00
Total Costs:	\$99,820.00	\$299,342.00
Cost Share:	\$0.00	\$0.00

Indirect (F&A) Rate (MTDC):	
<input type="radio"/> Organized Research 48%	<input type="radio"/> Off Campus 26%
<input type="radio"/> Instruction 50%	<input type="radio"/> Commercial 63.61%
<input type="radio"/> Other Sponsored Activities 30%	

If Sponsor Limits F&A, what rate is allowed?	<input type="text" value="0%"/>	Rate applied to this proposal (if not listed above)	<input type="text" value="0%"/>
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PI's Effort (Total Project Person Months)

Course Release? Overload?

Research Type:

Budget is Lab Rate ONLY Yes No

Includes Subrecipients Yes No

Fundamental Research Yes No

Research where the results are ordinarily published and shared broadly within the research community, and for which the researcher has not accepted restrictions for proprietary or national security reasons.

COMPLIANCE REVIEW: To be completed by the PI - MUST answer Yes or No to **ALL**

- | | | |
|---|---|---|
| <input checked="" type="radio"/> Yes <input type="radio"/> No Human Subjects | <input type="radio"/> Yes <input checked="" type="radio"/> No Biological Materials | <input type="radio"/> Yes <input checked="" type="radio"/> No Infectious Agents |
| <input type="radio"/> Yes <input checked="" type="radio"/> No Hazardous Chemicals/Waste | <input type="radio"/> Yes <input checked="" type="radio"/> No Clinical Trials | <input type="radio"/> Yes <input checked="" type="radio"/> No Proprietary Information |
| <input type="radio"/> Yes <input checked="" type="radio"/> No Animals | <input type="radio"/> Yes <input checked="" type="radio"/> No Medical Devices/Drugs | <input type="radio"/> Yes <input checked="" type="radio"/> No Foreign Nationals |
| <input type="radio"/> Yes <input checked="" type="radio"/> No Radioactive Material | <input type="radio"/> Yes <input checked="" type="radio"/> No Recombinant DNA or RNAi | <input type="radio"/> Yes <input checked="" type="radio"/> No Foreign Travel/Shipping |
| <input type="radio"/> Yes <input checked="" type="radio"/> No HIPAA/PHI* | <input type="radio"/> Yes <input checked="" type="radio"/> No ITAR/CUI* | <input type="radio"/> Yes <input checked="" type="radio"/> No Int'l Collaborations |

Does this project pose a conflict of interest for you or any anticipated project member? Yes No

Have you or any anticipated project member been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from transactions by a federal department or agency? Yes No

Are you or any anticipated project member currently delinquent on any federal debt? (i.e. taxes, student loans, etc.) Yes No

Does this project require facilities that are not currently allocated/available to you? Yes No

WSU Department/College/Center Responsible for Matching Funds/Cost Share

Amount

<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

NOTES/COMMENTS:

Twomey and Smith-Campbell are Senior Advisors. They will commit 5% of their time. Dr. Twomey has the support of the Engineering Dean and Dr. Smith-Campbell has the support of the School of Nursing Chairperson.

***Definitions:** HIPAA/PHI - Health Insurance Portability and Accountability Act/Personal Health Information; ITAR/CUI - International Traffic in Arms Regulations/Controlled Unclassified Information

NEW - RTT is now tracking PI/Co-PI involvement on sponsored projects. Please complete the table below. This information will be used when reporting proposal/award totals across PI/Co-PI roles, departments and colleges.

Name	Role	Dept/College/Center	% of Project
Twyla Hill	PI	Sociology	24
Nikki Keene Woods	Co-PI	Public Health Sciences	19
Laila Cure	Co-PI	ISME	19
Ajita Rattani	Co-PI	EECS	19
Rhonda Lewis	Co-PI	Psychology	19

Total Project Allocation MUST equal 100

100

ACKNOWLEDGMENTS AND CERTIFICATIONS:

As the Principal Investigator, I acknowledge that I have reviewed and considered all terms and conditions (including those that must be accessed electronically), and I understand that said terms and conditions are/may be applicable to any and all work performed should the application be successful. My signature indicates my knowledge of the terms and conditions and my willingness/ability to comply therewith. With respect to any invention, discovery, or copyrightable material produced in the course of activities encompassed by this project, I agree that my rights and those of any Co-Investigator(s) working on this project shall be governed by the University policies relating to research, patents and copyrights as described in the WSU Faculty Handbook, and by the patent policy of the Kansas Board of Regents; and I have read and understand the lobbying restrictions and Responsible Conduct of Research requirements for **FEDERAL** grants, contracts and cooperative agreements attached hereto as page 3.

As the Principal Investigator, I hereby certify that: 1) the information submitted within this application is true, complete and accurate to the best of my knowledge; and 2) any false, fictitious or fraudulent statements or claims may subject me personally to criminal, civil or administrative penalties; and 3) I agree to accept responsibility for the scientific conduct of this project and provide the required progress reports if a grant is awarded as a result of this application.

FORM WILL LOCK ONCE SIGNED BY PI - ENSURE YOU HAVE READ AND COMPLETED ALL PRIOR SECTIONS

PI Signature: Twyla Hill Digitally signed by Twyla Hill
DN: cn=Twyla Hill, o=Western State University, ou=Sociology
Department, email=twyla.hill@westernstate.edu, c=US
Date: 2020.06.04 09:37:24 -05'00' Date: 06/04/2020

Agreement of project involvement and acknowledgements and certifications of Co-Principal Investigators (as applicable)

Co-PI	Nikki Keene Woods <small>Digitally signed by Nikki Keene Woods Date: 2020.05.28 10:00:39 -05'00'</small>	Co-PI	Laila Cure <small>Digitally signed by Laila Cure Date: 2020.05.27 21:28:53 -05'00'</small>
Co-PI	Ajita Rattani <small>Digitally signed by Ajita Rattani Date: 2020.05.27 22:17:52 -05'00'</small>	Co-PI	Rhonda K. Lewis, Ph.D., MPH <small>Digitally signed by Rhonda K. Lewis, Ph.D., MPH Date: 2020.06.02 12:07:57 -05'00'</small>

The validity of the proposed activity and commitment of resources (as noted) are hereby authorized.

Jodie L. Hertzog <small>Digitally signed by Jodie L. Hertzog Date: 2020.06.03 17:56:15 -05'00'</small>	6/3/2020	Janet Twomey <small>Digitally signed by Janet Twomey DN: cn=Janet Twomey, ou=Western State University, ou=Associate Dean College of Engineering, email=janet.twomey@westernstate.edu, c=US Date: 2020.06.27 09:28:01 -05'00'</small>	05/27/20
PI Chair/Center Director	Date	PI Dean/Vice President	Date
Rogers, Nicole L. <small>Digitally signed by Rogers, Nicole L. Date: 2020.06.01 20:01:47 -05'00'</small>	06/01/2020	Stephen Arnold <small>Digitally signed by Stephen Arnold Date: 2020.06.02 11:25:34 -05'00'</small>	6/2/2020
Additional Endorser / Co-PI Chair/Dean	Date	Additional Endorser / Co-PI Chair/Dean	Date
David M. Eichhorn <small>Digitally signed by David M. Eichhorn Date: 2020.06.04 08:47:05 -05'00'</small>	06/04/20		
Additional Endorser / Co-PI Chair/Dean	Date	Additional Endorser / Co-PI Chair/Dean	Date
Additional Endorser / Co-PI Chair/Dean	Date	Additional Endorser / Co-PI Chair/Dean	Date
Karen Davis <small>Digitally signed by Karen Davis Date: 2020.06.08 10:28:29 -05'00'</small>	06/08/20		
Director for Pre-Award	Date	Provost or Sr VP of Ind & Defense Programs	Date
		<i>Required for proposals with waived indirects and/or cost share</i>	

CERTIFICATION REGARDING LOBBYING

The applicant certifies, to the best of his or her knowledge and belief, that: (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the applicant, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement. (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the applicant shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. (3) The applicant shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

RESPONSIBLE CONDUCT OF RESEARCH (RCR)

RCR training is a funding requirement for the National Science Foundation (NSF), the National Institutes of Health (NIH) and the USDA National Institute of Food and Agriculture (NIFA). Researchers applying for, and receiving, support from NSF, NIH or NIFA should be familiar with each agency's requirements with regards to RCR and be prepared to provide documentation of appropriate training. While RCR training should be an ongoing component of any research program, at a minimum, personnel on projects with a research component will need to register and complete the "Externally Funded Researchers" RCR course through the Collaborative Institutional Training Initiative (CITI) during the first 90 days of receiving salary support.

Date Rec'd by RTT

Prop # 200554

GDS: DM