Research Focus: Suicide and Health Disparities

My research focuses on health disparities in suicide and mental illness across the life course. Within this topic area, I am specifically interested in suicide research and prevention. My dissertation and other research areas are concerned with uncovering the psychosocial and behavioral determinants (e.g., health behaviors, social networks, and positive youth development) of suicide among diverse populations. My long-term goal is to develop tailored, culturally-sensitive, network-based interventions to reduce health disparities in suicide.

My practice experiences and interdisciplinary training in social work, social policy, and public health underpin my research to address 1) psychiatric epidemiology and 2) social determinants of health disparities. My research has been published in a cohesive set of peer-reviewed articles in top-tier journals in social work, public health, psychology, and psychiatry.

1. Psychiatric Epidemiology

First, I use an epidemiological perspective to build a systematic understanding of racial/ethnic, gender, age, and socioeconomic disparities in suicide and mental illness. This knowledge is essential to my long-term interest: Shaping policies and developing interventions that meaningfully incorporate racial and cultural diversity. One of my forthcoming articles in the journal *Pediatrics* exemplifies this theme. In this study, I examined racial/ethnic, and gender disparities in trends of suicidal behaviors among high school students in the U.S. The results revealed that Black adolescents were the only group (versus White, Latino, Asian American, Native American, Multiracial) to show increasing suicide attempts between 1991 and 2017. Black females, in addition, experienced accelerated increase in suicide attempts. This study unpacks the unique long-term trend of suicide disparities among adolescents. It further underlines the emergent need for prevention, intervention, and treatment that ameliorate suicidal behaviors among Black adolescents in clinical and community settings.

2. Social Determinants of Health Disparities

The worrying trends of suicidal behaviors have led me to rethink the social determinants of suicide disparities. Prior research suggests that the predictive ability of risk factors of suicide has not improved in the past 50 years. Most studies focus on psychiatric and single risk factors, which are inherently limited to accurately predict suicidal behaviors. To fill this significant gap, my research agenda focuses on health behaviors, social networks and positive youth development in affecting suicidal behaviors.
2.1. Health Behaviors

Many previous studies examined single behaviors as correlates of suicidal behaviors. In contrast, my work is grounded in the Multiple Health Behavior Change framework, and I argue for examining the combined effect of multiple health behaviors, which has been rare in prior research. My lead-authored paper in the *Journal of Affective Disorders* represents this new perspective. I develop a measure of health lifestyles to characterize meaningful patterns of multiple health behaviors. Our findings have identified adolescents with the lifestyle that consistently engaged in health-promoting behaviors as an emerging at-risk group of suicide. This study is among the first to empirically document lifestyle-suicide relationship. It suggests screening health lifestyles as a promising step to detect adolescent suicidal behaviors. In addition, we found older, Black, Hispanic and Asian students disproportionately represented in at-risk health lifestyles, supporting the need for tailored suicide interventions to address suicide disparities.

2.2. Social Networks

My interest in social network influences has been unfolded while exploring effective interventions for health behaviors. Social networks provide structural and functional mechanisms for the diffusion of health behaviors and context for social support. Social networks can reduce or increase suicidal behaviors in youth and adults. Although network-based interventions have been found effective for reducing health problems and recommended by researchers and policymakers, they are not yet applied for suicide prevention.

*My dissertation* addresses social network influences on health disparities in suicide. I am examining changes in suicidal behaviors from adolescence to young adults (Study 1). I focus on the impacts of structural and functional types of social networks during adolescents (Study 2), and the effects of the changes of social network profiles and future orientation over developmental stages (Study 3). My dissertation is unique in several aspects. Prior research is limited because the majority uses cross-sectional design which does not allow for examining the dynamic changes of suicidal behaviors. Instead, I use four waves of data from the National Longitudinal Study of Adolescent to Adult Health to disentangle various suicide trajectories from adolescence to adulthood. Further, I adopt growth mixture modeling to characterize changes in suicidal behaviors and to determine possible sociodemographic differences, which is infrequently examined in the current suicide research but essential for improving intervention efficacy. Lastly, while previous studies widely focused on risk factors, I investigate the protective factors of suicidal behaviors. This initiative is informed by my lead-author studies concerning
the impact of different forms of social networks (i.e., cumulative, transitioning patterns) on suicidal behaviors. I explored the buffering effect of future orientation on negative social interactions and uncovered racial/ethnic- and gender-specific mechanisms. Findings can potentially 1) improve suicide assessments for adolescents and young adults, and 2) expand the available intervention strategies that are culturally-sensitive and emphasize the roles of social networks and future orientation. My work in this line won the Kenneth Lutterman Award for Best Student Paper, and I was named as one of the ten 2019 New Writers Fellows, a competitive award by the Family Process Institute.

2.3. Positive Youth Development

Given my preliminary findings in future orientation as protective factors, I have developed an interest in positive youth development. Future orientation is as a unique but under-studied concept that could potentially inform novel interventions to reduce disparities. To fill the gap of measuring future orientation among diverse populations, my lead-authored paper in the *Journal of School Psychology* examines the measurement invariance of a future orientation scale in the School Success Profile. This work adds value to the existing discourse by providing a rigorous assessment tool of future orientation for researchers and practitioners working with adolescents from different racial/ethnic backgrounds. Using this racial-invariant scale, I led a study examining the mediating role of future orientation in the negative influences of neighborhood disadvantages on school success among students across race/ethnicities. Our results have been presented at major international conferences.

My research experience in Centre of Suicide Research and Prevention has connected me with mental health researchers and developed international collaborations to dive into disparities among rural population in less developed countries. I am part of the Chengdu Mental Health Project, a unique longitudinal project on long-term outcomes of persons with severe mental illness in rural China. I also work with the research team at the University of Rochester on the first nationally representative study of psychiatric disorders in Turkey. I have consistently contributed to design the study, lead data analysis, draft and review manuscripts. Collaboratively, we published in leading psychiatric journals. These ongoing experiences of multidisciplinary and cross-national collaborations have enriched my skills to work collegially in an interdisciplinary academic environment.

**Future Research**

My goal in the next five years is to advance the current knowledge of health disparities in suicide and mental illness using existing and primary data. I consider social networks as an important mechanism intervening suicidal behaviors. I plan to seek funding to extend my current longitudinal
studies investigating the reciprocal dynamics over time between social networks and suicidal behaviors in diverse groups. This work aligns strongly with potential funding opportunities offered by Robert Wood Johnson Foundation, American Foundation for Suicide Prevention, and the Annie E. Casey Foundation. Moving forward, I intend to apply for early-career supports to advance my current research by collecting primary data on social networks and examining their influences on suicidal behaviors.

My long-term plan is to leverage computational approaches and develop tailored, effective, network-based suicide preventions and interventions for vulnerable populations. I hope to grow as an interdisciplinary scholar whose research will ultimately bridge the health disparities gap, and lead to significant promotion of life savings among adolescents and adults in the world.