The overarching goal of my research is to develop theory-based and empirically grounded prevention programs for adolescent problem behaviors. Trained as an intervention researcher, I pursue my research in three interrelated areas: (a) advancing intervention theories for understanding and preventing adolescent problem behaviors, (b) synthesizing empirical evidence of intervention efficacy, and (c) enhancing clinical trial design and evaluation methods. During my doctoral studies, I have been productive in researching and publishing in all three areas and developed strong methodological and statistical skills. I analyze both large secondary databases and originally collected data using state-of-the-art quantitative methods.

Understanding Determinants of Adolescent Problem Behaviors

A core part of my research on advancing intervention theories is gaining an in-depth understanding of the psychosocial determinants of adolescent problem behaviors (e.g., substance use, sexual risk behaviors) that guide the choice of intervention approaches. Two general approaches, based on different theoretical traditions that emphasize either the common determinants (e.g., sensation seeking, emotional regulation) or the behavior-specific determinants (e.g., beliefs about alcohol use) of problem behaviors, have guided the rationale and design of most prevention programs. My research is guided by behavioral decision theory which emphasizes behavior-specific determinants of behavioral intentions or decisions. One of the publications that I have worked on took a novel approach to investigate the magnitude of correlations among adolescent problem behaviors in 125 countries and explored country-level determinants of such correlations using large representative samples and meta-analytic methods. The study found that the correlations among problem behaviors are small and vary modestly across countries. The findings indicate that adolescent problem behaviors are dominated by behavior-specific determinants, with lesser contributions of common determinants. The findings have implications on the choice of prevention approaches and suggest the need to integrate both common and behavior-specific determinants to maximize intervention effects.

Examining Parental Influence on Adolescent Problem Behaviors

Another important part of my research on advancing theories is examining parental influences on adolescent problem behaviors with a particular focus on alcohol use outcomes. Preventing or reducing adolescent alcohol consumption through interventions focused on parental behaviors has been a main thrust in the field but the interventions have shown small effects. One aim of my research is to determine how to make parent-based programs more effective, which requires testing specific theories regarding the influence of parental factors on adolescent drinking. I carried out several studies on this front including my dissertation and a study examining the influence of perceived general parenting practices on gender differences in early experimentation with alcohol among Chinese early adolescents. A unique contribution of the latter study is that it isolates nonlinear moderating effects of general parenting practices on gender differences in alcohol use that can be addressed by parent-based interventions.

My dissertation tests an innovative theory of cross-generational effect of discrimination, namely how the mother’s reported discriminatory experiences might, in addition to the adolescent reported discriminatory experiences, affect the mental distress and alcohol use of the adolescent among inner-city Latino youth. The study uses a three-wave panel design and structural equation modeling. In the United
States, Latino youth are disproportionately vulnerable to underage drinking. Reports of discrimination are prevalent among Latino youth but is rarely addressed in preventive interventions. My dissertation will explore the types of discrimination that most affect adolescents and their mothers and identify moderators of the effects of discrimination on mental distress. I will also explore the reciprocal relationships between mental distress and alcohol use. My dissertation will have implications for the development of novel prevention programs that may help offset disparities in alcohol use among minority youth in urban settings.

**Synthesizing Empirical Evidence of Intervention Efficacy**

A second part of my research focuses on synthesizing empirical evidence using systematic review and meta-analytic methods. I took the lead on conducting and publishing a systematic review of randomized controlled trials of parent-based interventions for adolescent alcohol use outcomes and exploring potential moderators of intervention effects. The analysis found supportive evidence of the intervention efficacy in reducing adolescent drinking and moderating effects of intervention content and type of drinking outcome. The review has implications for future research advocating for more direct comparisons of different intervention approaches and more studies to test intervention mechanisms.

**Promoting Methods of Designing and Evaluating Intervention Research**

Trained as an intervention researcher under Dr. James Jaccard, I see a need to promote intervention design and evaluation methods. The field needs to move beyond adopting broad-based, abstract, theoretical frameworks in intervention design and outcome-only evaluations without specifying and evaluating the working mechanisms of the program. One of the publications on which I have worked describes a framework for randomized explanatory trials that maps program components onto hypothesized mediators of program effects and elucidates key theoretical, methodological and analytic issues when using a randomized explanatory trial design for program evaluation. In addition, clinical randomized controlled trials have not sufficiently contextualized the meaning and implications of treatment effect sizes. I have co-authored an article that introduces a benchmark-based paradigm that can reduce the arbitrariness of outcome metrics for evaluations of treatment effects in clinical trials using a well-known depression scale as an example. Finally, I will work on a paper on intent-to-treat analytic strategies in mediational analyses in randomized controlled trials.

**Future Directions**

I will continue developing my research by testing and advancing intervention theories, synthesizing empirical evidence, and promoting intervention design and evaluation methods. I plan to explore funding opportunities through the National Institute on Alcohol Abuse and Alcoholism, National Social Science Foundation of China, and foundations that invest in adolescent research (e.g., William T. Grant Foundation). The long-term goal is to develop effective interventions and prevention programs for adolescent problem behaviors both domestically and internationally, and to examine intervention mechanisms using randomized explanatory designs. In the short term, I plan to apply behavioral decision theory to adolescent drinking behaviors using structural equation modeling methods, conduct Cochrane and Campbell systematic reviews to compare different approaches of parent-based intervention, and write articles on research synthesis methods and clinical trial evaluation methods.