Research Statement

My research focuses on (1) understanding and improving couples' adaptation to stressors within and outside their relationship, and (2) understanding how efficacious interventions are implemented in real-world community and healthcare settings, and how close relationships may facilitate these translations.

Most couples face several chronic and acute stressors over the course of their relationships. My work is rooted in the idea that the way a given couple adapts to the stressors that arise is influenced by the nature of the stressor (e.g., chronic, acute), vulnerability factors that partners bring to the relationship (e.g., personality characteristics or family history), and the overall quality of their relationship (Karney & Bradbury, 1995). Over time, their relationship quality will also be affected by how they adapt. Thus, distressed couples (i.e., those with clinically low levels of relationship quality) are less likely to adapt effectively to challenges and, thus, are more likely to experience additional stress; likewise, couples who do not effectively adapt to challenges are more likely to experience additional stressors and to have low levels of relationship quality.

My research as a graduate student focused on understanding the relationship processes common in distressed couples, as well as how these processes can be changed through couple therapy in the hopes of improving relationship quality. The theory underlying behavioral couple therapy suggests that helping distressed couples communicate more effectively leads to parallel improvements in relationship functioning. In my dissertation I examined trajectories of change in couples' observed communication during couple therapy through two years after treatment termination. I found that couples generally improved their communication from pre- to post-therapy and maintained those improvements through the 2-year follow-up (Baucom et al., 2011, 2015). Furthermore, changes in some aspects of communication were related to treatment outcomes (improvements in relationship satisfaction and relationship maintenance).

My work has sought to understand and improve couples' adaptation to stressors outside their relationship, such as the birth of a child. Much of my previous research in this area focused on evaluating primary prevention programs for couples experiencing the stress of pregnancy and a newborn, *along with* the chronic stress of low-income status. Across small pilot trials in Los Angeles (Baucom et al., 2018) and New York, and large uncontrolled (Heyman et al., 2020) and randomized (Heyman, Slep, Lorber, Mitnick, Baucom, et al., 2019) trials in New York, my colleagues and I did not find support for the efficacy or effectiveness of the American version of Couple CARE for Parents (Heyman, Baucom, et al., 2019). These results were likely impacted by significant challenges with recruitment and retention, highlighting the need to better understand program implementation and methods for improving enrollment and engagement. This influenced my interest and current research focus on implementation and community-based participatory research.

Poor physical health of one or both partners functions as a stressor for many couples and is linked to worse relationship quality through a series of interrelated biopsychosocial processes (Robles et al., 2014). If one partner has (or is at risk for) a chronic disease, there are several lifestyle factors that, if changed, may improve the long-term outcomes for the individual. Yet, individual partners' adaptation occurs in the context of their relationship – one partner making changes to their physical activity or eating habits is likely to influence the other partner and vice versa. Due at least in part to this mutual influence, partners tend to be similar in a wide range of aspects of health, including lifestyle factors and risk for chronic disease. Although there are many couple- and family-based psychosocial interventions for adults who *have developed* chronic diseases (Martire & Helgeson, 2017), few programs that aim to *prevent* chronic diseases systematically include close others, a gap that my work seeks to fill.

Much of my current work focuses on primary prevention of type 2 diabetes in a relationship context. Colleagues and I examined outcomes among individuals who signed up for the CDC's National Diabetes Prevention Program (NDPP) together with another household member compared with those who signed up alone. The lifestyle intervention on which the NDPP is based was efficacious in a large randomized controlled trial (The Diabetes Prevention Program Research Group, 2002), but outcomes in the community demonstrate substantial room for improvement, particularly among participants who are

members of minoritized groups (e.g., lower income, racially and ethnically minoritized groups) (Ely et al., 2017). We found those who signed up for the program together with another household member were more likely to enroll in and complete the program, and stayed in the program longer, relative to those who signed up for the program individually (Ritchie, Baucom, & Sauder, 2020). Further, men who signed up with another household member were more likely to meet the CDC goal of at least 5% body weight loss compared with men who signed up individually (Ritchie, Baucom, & Sauder, 2020). These findings suggest that including close others may increase enrollment, engagement, and possibly even outcomes, of the NDPP and other primary prevention programs. However, there were no reports on the frequency with which individuals currently enroll in the program together with close others, or how Lifestyle Coaches delivering the NDPP view a dyadic approach.

With support from internal pilot grants, I collected survey data on the *current* implementation of the NDPP from a nationwide sample of over 300 Lifestyle Coaches. The majority of Lifestyle Coaches surveyed (83%) had delivered the NDPP to dyads (i.e., friends and/or family members). In my qualitative description of open-ended items on this topic, I found Lifestyle Coaches reported a number of benefits to working with dyads in the NDPP (e.g., having a partner to make lifestyle changes with, superior outcomes and increased engagement) as well as some less common challenges (e.g., difficult relationship dynamics, differences between dyad members) (Baucom et al., 2022). These and other qualitative data collected during my NIDDK-funded K23 award, together with feedback from a Community Advisory Board (Newman et al., 2011) that included 12 individuals with personal and/or professional expertise in type 2 diabetes and prevention, informed a couple-based adaptation of the CDC's *PreventT2* NDPP curriculum. Whereas *PreventT2* includes delivery to groups of individuals at high risk for type 2 diabetes, our adaptation (*PreventT2 Together*) will be delivered to groups of couples in which one or both partners are at high risk for type 2 diabetes. In addition to adapting the intervention to be delivered to couples, my team also aimed to update the curriculum to be broadly applicable to a wide range of participants, with a particular focus on individuals from marginalized groups who the NDPP has failed to reach and engage.

In the context of developing the couple-based *PreventT2 Together* curriculum, my Hispanic community partners emphasized the potential of a broader family-based approach, consistent with the Hispanic cultural value of familism. They also identified a need for culturally-adapted diabetes prevention packages that required less time than the NDPP. My team's pilot data described above supported these ideas. Lifestyle Coaches working primarily with Hispanic/Latino participants viewed both lack of family support and lack of time among the most significant barriers to participation and lifestyle change in their participants (Aguirre et al., 2021). Building on these experiences and data, I collaborated with colleagues on campus and at Alliance Community Services to develop several proposals for community-based participatory research projects focused on family-based diabetes prevention in local Hispanic communities.

Future Research Plans

I plan to continue both basic and translational research that leverages close relationships to facilitate the implementation of interventions in real-world settings. My team is currently recruiting for a mixed-methods pilot randomized feasibility trial of *PreventT2 Together* versus *PreventT2* (Whitaker et al., under review). This pilot work will inform an NIH proposal for a larger trial. I am also expanding my work on diabetes prevention in a social context to family members more broadly. In collaboration with colleagues at the University and community partners at Alliance Community Services, I received (1) a 3-year grant from the American Diabetes Association to develop a culturally-responsive family-based diabetes prevention package for Hispanic adults in Utah who are at high risk for type 2 diabetes, and (2) an NIH administrative supplement to my K23 for a complementary project focusing specifically on the needs of Hispanic women with children under 18. Finally, in the coming months I will submit a proposal for a project examining the effectiveness of brief exposure therapy delivered by trainees to Utah teens and adults with a fear of needles. This project builds on my clinical expertise in exposure therapy for anxiety disorders and my service providing pro bono therapy through the Free Needle Phobia Project, but also has implications for my broader program of research given the prevalence of needle fear among individuals with type 2 diabetes and chronic illnesses, yet the lack of data on interventions (Duncanson et al., 2021).

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