

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, 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. The lifestyle intervention on which the CDC's National Diabetes Prevention Program (National DPP) 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), younger, and men (Ely et al., 2017). In a preliminary study, my colleagues and I found those who signed up for the National DPP together with another household member were more

likely to enroll in and complete the program, and stayed in the program longer compared with those who signed up for the program individually (Ritchie, Baucom, & Sauder, 2020), and men who signed up with another household member were more likely to meet the CDC goal of at least 5% body weight loss (Ritchie, Baucom, & Sauder, 2020). Thus, including close others may increase enrollment, engagement, and possibly even outcomes, of the National DPP and other primary prevention programs.

Along with qualitative data collected during my NIDDK-funded K23 award (e.g., Baucom et al., 2022) and feedback from the Couple-Based Diabetes Prevention Community Advisory Board (CBDP CAB; a group of individuals with lived and/or professional expertise in type 2 diabetes and prevention) (Aguirre et al., 2020), my team built on these preliminary results by developing a couple-based adaptation of the CDC's *PreventT2* National DPP curriculum. Whereas *PreventT2* includes delivery to groups of individuals at high risk for type 2 diabetes, *PreventT2 Together* (our adapted program) is 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 and explicitly focus on how each partner can best support the other, we also aimed to update the curriculum to be broadly applicable, with a particular focus on individuals from marginalized groups who the National DPP has failed to reach and engage. *PreventT2 Together* was reviewed and approved by the CDC as an "alternate curriculum" of the National DPP in 2022. In a pilot trial on which we recently completed data collection, we are evaluating the feasibility of a randomized study protocol of *PreventT2 Together* versus *PreventT2* (Whitaker et al., 2023). Although analyses are on-going, we successfully recruited a sample of 12 individuals at high risk for type 2 diabetes ("target partners") along with their romantic partners ("supporting partners"). We recruited a higher percentage of men (66.7%; n = 8) and younger adults (18-44 years old; 41.7%; n = 5) as target partners in this trial compared with participation rates of these groups in the CDC's nationwide implementation (20% and 16.9% of over 40,000 participants, respectively; Cannon et al., 2020; Ely et al., 2017). Furthermore, at the mid-point of the program, 100% of target partners in the couple-based condition and 50% of target partners in the individual condition had met the physical activity goal (along with 83.3% of supporting partners in the couple-based condition). I led an interdisciplinary team of scientists and clinicians, together with 11 of the original members of the CBDP CAB, on the development of an R01 proposal for a Phase II efficacy trial of *PreventT2 Together* (pending). The R01 was scored within the NIDDK payline for Early Stage Investigators, and NIDDK staff indicated they plan to fund the award (expected start, July 2024).

In the context of developing *PreventT2 Together*, 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 National DPP. This is consistent with research, from our team and others. To address this community need, we formed a community-academic research team and developed two complementary grant proposals, both of which were funded! Using data collected from participants in a mixed-methods formative evaluation trial, as well as feedback from Community Health Worker interventionists and a CAB, we are finalizing a culturally-responsive diabetes prevention package targeting Hispanic adults at high risk for type 2 diabetes and their family members. We will pilot the intervention in a proof-of-concept trial.

Future Research Plans

I am eager to continue this and related work in collaboration with colleagues and community partners. The pending R01 aims to: (1) determine the efficacy of *PreventT2 Together* in a single-center RCT, (2) examine baseline relationship satisfaction as a moderator and perceived partner support as a mechanism of lifestyle change, and (3) quantify intervention retention and describe reach across recruitment methods. The community-academic team focusing on family-based diabetes prevention in the Hispanic community is discussing several possibilities (e.g., PCORI Engagement Award for capacity-building, NIH proposal for either intervention refinement or a larger trial), depending on pilot results. Finally, Dr. Feea Leifker (PI) and I recently submitted a proposal to evaluate the efficacy of a brief exposure therapy intervention delivered via telehealth to individuals across Utah with needle fear. This project builds on my clinical expertise and has implications for my broader research program given needle fear prevalence among individuals with type 2 diabetes and other chronic illnesses, yet lack of data on interventions (Duncanson et al., 2021).

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