

RELATIONSHIP FACTORS THAT BUFFER DISRUPTIONS TO CHRONIC
ILLNESS SELF-MANAGEMENT DURING THE COVID-19 PANDEMIC

by

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(Under the Direction of Michelle R. vanDellen)

ABSTRACT

Chronic illnesses (CIs) are the leading causes of morbidity and mortality in the United States. Currently, sixty percent of adults living in the United States have one CI, and forty percent are living with two or more CIs. CI self-management is a critical component of ongoing care and often involves the person living with CI's (PLCI) close others, especially their romantic partner. I propose the PLCI, their physician, and their romantic partner form a triadic transactive system that sets, pursues, and monitors the outcomes of CI self-management goals. The COVID-19 pandemic and mitigation measures have disrupted routine care for CIs from health professionals. Thus, I posited the transactive links between the PLCI and their physician would become fewer and weaker and these CI self-management responsibilities would shift to the PLCI-partner relationship. I hypothesized the disruption to routine care and the triadic transactive system would predict worse CI self-management and that this relation would be mediated by weakened goal coordination between the PLCI and their partner. I also proposed the PLCI and their partner's relationship factors, specifically social support, goal responsiveness, and health communication efficacy, would buffer these negative effects

to predict better CI self-management. Adults living with CI who had a cohabiting romantic partner completed an online survey about their experienced disruption to their routine care for CI from the COVID-19 pandemic, their perceptions of received social support from their partner, their partner's goal responsiveness, the couple's health communication efficacy, the couple's goal coordination, and the quality of their CI self-management. Social support, goal responsiveness, and health communication efficacy were associated with strengthened goal coordination and predicted better CI self-management. Contrary to my hypothesis, a higher degree of disruption to the transactive system predicted better CI self-management. This relation was mediated by strengthened goal coordination with one's romantic partner. The indirect effect of disruption to the transactive system predicting CI self-management through goal coordination was not contingent on relationship factors. Results are discussed in the context of Transactive Goal Dynamics theory and dyadic coping with chronic illness, and future directions for this line of research are suggested.

INDEX WORDS: Chronic Illness Self-Management, Transactive Goal Systems,
Romantic Relationships, COVID-19 Pandemic

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DEDICATION

I dedicate this work to my husband, family, friends, and mentors for their love, guidance, and unending support throughout my time at the University of Georgia.

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CHAPTER 1

INTRODUCTION

Chronic illnesses (CIs), such as diabetes, heart disease, and cancer, are the leading causes of morbidity and mortality in the United States, and treatment of CIs comprises the large majority (90%) of the multitrillion-dollar healthcare costs in the US each year (Centers for Disease Control and Prevention [CDC], 2019). Currently, sixty percent of adults living in the United States have one CI, and forty percent are living with two or more CIs (CDC, 2019). Chronic illness is defined as a physical health condition lasting at least one year that does not resolve spontaneously, is rarely cured, requires ongoing medical treatment, and may interfere with daily living activities (CDC, 2019; Checton et al., 2012). Health professionals consider self-management of one's CI a critical component of ongoing care (Huygens et al., 2016). CI self-management is the performance of discernable behaviors that are critical for survival or improving health (Martire & Helgeson, 2017). Beyond prescribed treatment regimens (e.g., medication adherence and symptom monitoring), CI self-management extends to actively engaging in lifestyle behaviors that promote better overall health (e.g., physical activity, good nutrition, abstinence from tobacco use, losing weight), the maintenance of supportive relationships with one's close others and health professionals, and autonomous CI-related decision-making (Grady & Gough, 2014; Schulman-Green et al., 2012; Van de Velde et al., 2019). Optimal self-management may reduce patients' hospital utilization and costs

(Groessler & Cronan, 2000; Lorig et al., 2001), as well as improve their quality of life and physical health outcomes (Barlow et al., 2002; Van de Velde et al., 2019).

Self-Management of Chronic Illness

Self-management of CI is a transition from the traditional physician-patient relationship into a partnership between the person living with a chronic illness (PLCI) and the provider wherein care is guided by the PLCI (Grady & Gough, 2014; Van de Velde et al., 2019). Optimal self-management includes an active relationship with the PLCI's physician that facilitates the PLCI's learning about the CI, discussion about treatment options, and strategies for lifestyle changes (Grady & Gough, 2014). Also critical for CI self-management is involving the PLCI's close others, particularly their cohabiting romantic partner (Schulman-Green et al., 2012). Beyond direct caregiving (Eriksson et al., 2019), romantic partners influence PLCIs' health-related behavior and affect through dynamic interpersonal processes (Berg & Upchurch, 2007), such as dyadic coping (Badr & Acitelli, 2017), social support (Gallant, 2003), partner control (Fekete et al., 2009), dyadic efficacy (Sterba et al., 2007), and health communication efficacy (Magsamen-Conrad et al., 2015). Among people with various CIs (i.e., cancer, arthritis, cardiovascular disease, chronic pain, HIV, and Type 2 diabetes) and their spouses, interventions targeting couples' relationship functioning (vs. patient-centered interventions or usual care) have shown small but significant effects of reduced PLCIs' depressive symptoms, decreased pain, and improved marital health (Martire et al., 2010).

Optimal self-management is difficult to maintain over time as it requires successful long-term self-regulation (i.e., the process of assessing CI-related threat(s), creating and enacting action plans to address the threat(s), and appraising the outcome),

typically of repeated daily behaviors that reflect new, often significant, lifestyle changes (Leventhal et al., 2004). PLCIs report barriers such as depression, fatigue, pain, difficulty exercising, lack of equipment, and low social support that hinder their active self-management (Jerant et al., 2005; Schulman-Green et al., 2016). In addition, spouses of PLCIs describe struggles of meeting the demands of informal care for their ill spouse while maintaining a sense of individual purpose and personal fulfillment (Eriksson et al., 2019). With aim to increase the frequency of health-promoting self-management behaviors specifically, a few interventions have taken a partner-assisted approach, wherein partners are encouraged to perform self-management behaviors with the PLCI (Martire & Helgeson, 2017). For example, people with hypertension who practiced relaxation therapy techniques with their spouses better adhered to their treatment regimens than people who practiced the techniques alone (Wadden, 1983). PLCIs and their close others may do well to adopt a dyadic goal setting approach for effective, sustainable CI self-management (Martire & Helgeson, 2017).

The Transactive System between Physician, PLCI, and Romantic Partner for Chronic Illness Self-Management

As the physician, PLCI, and their romantic partner share goals for the PLCI's care, health and wellbeing, they form a triadic transactive system that sets, pursues, and monitors the outcomes of their goals (Fitzsimons et al., 2015). In transactive systems, all individuals can pursue the goals of all members. For instance, the physician and the romantic partner can engage in behaviors that directly facilitate (or interfere with) the PLCI's self-management goals (vanDellen, 2019). All members can influence all goals (even those outside of the CI self-management goal). The extent to which system

members' goals, pursuits, and outcomes affect each other is referred to as transactive density (Fitzsimons et al., 2015). The PLCI likely shares high density about CI self-management with the physician but relatively less density in other domains. In contrast, a romantic partner likely shares high density with the PLCI across nearly all of their goals. Although connected by their interactions with the PLCI, the romantic partner and the physician likely experience low to moderate transactive density, depending on the extent of partner caregiving. The transactive system's goal coordination is the alignment and integration of their goal pursuits across these members; the better the goal coordination, the more effective the goal pursuit (Fitzsimons et al., 2015).

COVID-19 Pandemic and Mitigation Measures Disrupt the Chronic Illness Self-Management Transactive System

In March 2020, the US began experiencing an exponentially growing number of cases of and deaths from coronavirus disease 2019 (COVID-19) per day (Institute for Health Metrics and Evaluation, 2020). US local, state, and federal governments implemented shelter-in-place guidelines to mitigate the spread of novel coronavirus (SARS-CoV-2), the contagious virus which causes the respiratory disease COVID-19. Shelter-in-place recommendations include, when possible, working from home, limiting errands to picking up groceries and medicines, and avoiding social contact with people outside of one's household (CDC, 2020). People who have underlying medical conditions are encouraged to take extra precautions, such as asking family members to run errands on their behalf, due to potentially severe complications if they were to contract COVID-19 (CDC, 2020); CIs, such as asthma, chronic heart, lung, kidney, or liver disease, Type 2 diabetes, and illnesses and/or the treatment of illnesses which make a person

immunocompromised, such as cancer or poorly managed HIV/AIDS, comprise most of the conditions which put people at higher risk for severe illness from COVID-19 (CDC, 2020). Due to COVID-19 and mitigation strategies, many clinics that provide routine care for PLCIs closed their physical locations, cancelled non-essential medical procedures, and transitioned appointments to remote telemedicine, such as telephone calls or video conferencing (CDC, 2020). Reflecting the drastic decrease in ambulatory care for CIs was the decline of clinical laboratory testing volume in the US, including a 32.8% decrease in histology testing and 22% decrease in cancer testing during the summer of 2020 (Kalorama Information, 2020).

Because of the COVID-19 pandemic, people, including those living with CI, are underutilizing medical services for non-COVID-19 health concerns (CDC, 2020). The transition to telemedicine for PLCIs during the COVID-19 pandemic likely disrupts the triadic transactive system's effective regulation of CI self-management by weakening goal coordination between the PLCI and their physician. Telemedicine (vs. in-person) appointments may be scheduled less frequently, are often shorter in duration, and do not afford the opportunity for the physician to assess many of the PLCI's physical symptoms without interpretation from the patient; telemedicine may also exacerbate disparities in health care access for vulnerable populations (Nouri et al., 2020). Common barriers to telemedicine include patients' desire to interact with the healthcare system in ways they are accustomed, their preference for meeting with the provider with whom they have established a relationship versus someone they do not know, and lack of knowledge of how to access telemedicine options (Portnoy et al., 2020). Given this evidence, a

disruption to routine care for CIs during the COVID-19 pandemic likely interrupts the triadic transactive system's goal coordination, in turn hindering CI self-management.

Interpersonal Factors between PLCIs and their Romantic Partner may Buffer the Effects of Transactive System Disruption on Chronic Illness Self-Management

Because PLCIs are not receiving their routine care for CIs during the COVID-19 pandemic, the onus of care falls on the PLCI to self-manage, with less clinician guidance, at home. Thus, the transactive system for CI self-management likely involves shifts in responsibilities to the PLCI and the romantic partner, potentially even activating new demands of the romantic partner. Interpersonal skills in the PLCI and romantic partner should predict the quality of CI self-management goal coordination from this shift (Fitzsimons et al., 2015). Specific interpersonal skills, including social support (i.e., the real or perceived expression or provision of care, reassurance, or problem-solving; Gallant, 2003), goal responsiveness (i.e., the tendency to support one's partner in ways that align with the partner's goal representation; Fitzsimons et al., 2015; Kappes & Shrout, 2011), and health communication efficacy (i.e., the perceived ability to share information about the CI with one's partner; Checton et al., 2012) may predict goal coordination and thus facilitate CI self-management (Martire & Helgeson, 2017).

Social Support May Facilitate Chronic Illness Self-Management

Social support, particularly from the PLCI's romantic partner, may play a beneficial role in CI self-management (DiMatteo, 2004; Gallant, 2003). Social support for CI self-management includes instrumental support (e.g., tangible assistance with symptom monitoring, medication adherence), emotional support (e.g., offering affection, empathy, encouragement), and informational support (e.g., providing guidance, advice,

problem solving; DiMillo, 2019). Social support from PLCIs' close others is associated with improvements in many psychological and physical health outcomes related to CI, such as clinical symptomology, quality of life, depression, anxiety, pain, rehospitalizations, and mortality rates (Luttik et al., 2005; Pinguart & Duberstein, 2010; Strom & Egede, 2012). Related to CI self-management behavior, adherence to medical treatment regimens was significantly higher among people who reported receiving more (vs. less) functional support from their close others (DiMatteo, 2004). Certain self-management behaviors, like complex regimens or routines heavily tied to social cues (e.g., smoking, diet), are likely more susceptible to interpersonal support (Gallant, 2003). For example, on days when people with Type 2 diabetes received positive support (vs. pressure, which is a person's attempt at regulating another's behavior) from their romantic partner, they made better diabetic dietary choices (Stephens et al., 2013); in another study, people with knee arthritis exercised more on the days when they received support than on the days when they felt pressured to be physically active (Martire et al., 2013). Taken together, social support from a romantic partner may facilitate CI self-management, especially if PLCIs have experienced more healthcare-system disruption during the COVID-19 pandemic.

Goal Responsiveness May Facilitate Chronic Illness Self-Management

Though well-intentioned, some acts of partner support for CI management may be interpreted as unhelpful by PLCIs (Gallant, 2003; Rafaeli & Gleason, 2009). A qualifier of received support is perceived partner responsiveness (Maisel & Gable, 2009), the extent to which a person perceives their relationship partner to understand, care for, and validate them (Reis, 2014); for example, people who received support from their

unresponsive (vs. responsive) partners had greater all-cause mortality risk ten years later (Selcuk & Ong, 2013). Greater perceived partner responsiveness is linked to many beneficial physiological processes related to long-term health (e.g., better sleep, healthier cortisol profiles, reduced feelings of pain; Selcuk et al., 2017; Slatcher & Selcuk, 2017). Integrated into the transactive system framework is goal responsiveness (Fitzsimons et al., 2015), a special type of partner responsiveness that likely aids successful self-regulation of health behavior (vanDellen, 2019). Responsive goal support reflects an accurate understanding of the partner's goal representations, including the partner's goal value, goal-pursuit efficacy, and goal standards (Fitzsimons et al., 2015). Because responsive goal support aligns with the needs of the recipient, in this case the PLCI, it may buffer the negative effects of the disruption to the transactive system on CI self-management during the COVID-19 pandemic, perhaps by specifically increasing goal coordination between romantic partners.

Health Communication Efficacy May Facilitate Chronic Illness Self-Management

PLCIs' and their romantic partners' confidence in their ability to discuss the CI (as well as CI-related feelings, concerns, and associated lifestyle changes) with each other is associated with several psychological and relationship benefits and may promote its management. PLCIs' health communication efficacy predicted the breadth, depth, and frequency of disclosure about their CI to their romantic partner (Checton & Greene, 2012). In turn, disclosure of CI-related issues by one's partner was directly related to PLCIs' perceptions of partner responsiveness and feelings of intimacy (Manne et al., 2004). For example, people living with gastrointestinal cancer who were in a partner-assisted emotional disclosure intervention (vs. education/support intervention)

experienced better relationship quality and intimacy (Porter et al., 2009), and, in another sample, people living with cancer who held back cancer-related information from their spouse to a higher degree experienced increased distress and poorer relationship functioning (Porter et al., 2005). More directly tied to CI and its management, PLCIs who felt capable of discussing their health condition with their partner experienced less stigma uncertainty, symptom uncertainty, illness interference, as well as better general health and CI management (Checton et al., 2012; Magsamen-Conrad et al., 2015). Health communication efficacy about CI-related topics promotes feelings of partner support (Checton & Greene, 2012) and likely encourages streamlined goal coordination for CI management.

Study Overview

CI self-management is a critical component of PLCIs' ongoing care and often involves the PLCI's close others, especially their romantic partner (Eriksson et al., 2019; Huygens et al., 2016; Schulman-Green et al., 2012). The PLCI, their physician, and their romantic partner form a triadic transactive system that sets, pursues, and monitors the outcomes of CI self-management goals (Fitzsimons et al., 2015). The transactive links between the system members are dynamic over time, varying in quantity and strength due to both endogenous (e.g., partner caregiving, trust in physician, knowledge of CI and treatment options, physician-led patient autonomy in decision-making) and exogenous (e.g., physical or environmental barriers to healthcare, such as access to reliable transportation or proximity to clinics, work schedule flexibility, access to telemedicine options, money for appointments and treatments, medical insurance status) factors (Fitzsimons & Finkel, 2018). The COVID-19 pandemic and the US' mitigation measures

have disrupted routine care for CIs from health professionals (Blecker et al., 2021; Chudasama et al., 2020). Thus, the transactive links between the PLCI and their physician likely have become fewer and weaker during the pandemic, and these CI self-management responsibilities may have shifted to the PLCI-partner relationship. The disruption to routine care and the triadic transactive system may directly and indirectly predict worse CI self-management through weakened PLCI-romantic partner goal coordination. However, the relationship factors of social support, goal responsiveness, and health communication efficacy between the PLCI and their romantic partner may buffer the negative effects of disruption to the transactive system on CI self-management and on goal coordination.

To test these ideas, the current study assessed the degree of disruption to routine care and the transactive system due to the COVID-19 pandemic and evaluated its direct and indirect effects on CI self-management through PLCI and their romantic partner's goal coordination. The present work also investigated the effects of social support, goal responsiveness, and health communication efficacy on the relations between disruption to the transactive system and CI self-management and between disruption to the transactive system and goal coordination.

The most complex proposed models—three moderated mediation models wherein social support, goal responsiveness, and health communication efficacy each moderated the relation between disruption to the transactive system and goal coordination predicting CI self-management—are presented first. The current work then presents a breakdown of each hypothesized component of the proposed moderated mediation models as well as

each relationship factor predicting CI self-management separately, simultaneously, and interacting with disruption to the transactive system.

Summary of Hypotheses

Hypothesis 1: Relationship factors moderate the relation between disruption to the transactive system and goal coordination which indirectly predicts chronic illness self-management. I hypothesized (1a) social support, (1b) goal responsiveness, and (1c) health communication efficacy would each moderate the relation between disruption to the transactive system and goal coordination in the hypothesized mediation model of disruption to the transactive system predicting CI self-management through goal coordination, such that (1a) social support, (1b) goal responsiveness, and (1c) health communication efficacy would buffer the negative effect of disruption to the transactive system on goal coordination (Figure 1).

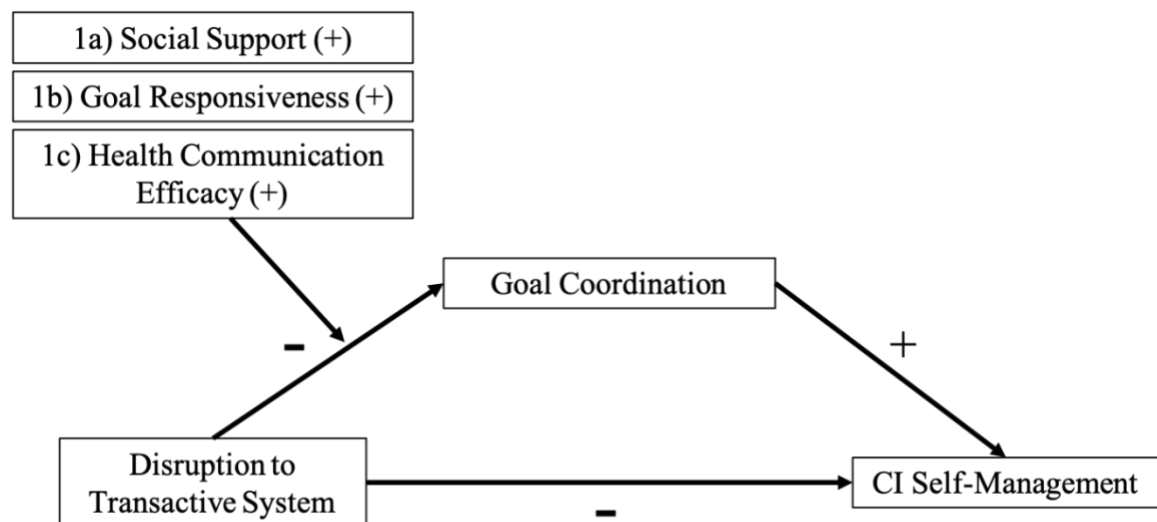


Figure 1

Hypothesis 1 Conceptual Models of Moderated Mediation

Hypothesis 2: Goal coordination mediates the effect of disruption to the transactive system on chronic illness self-management. I hypothesized goal coordination would mediate the relation between disruption to the transactive system and CI self-management, such that a higher degree of disruption to the transactive system would predict weakened goal coordination and that goal coordination, in turn, would predict better CI self-management (Figure 2).

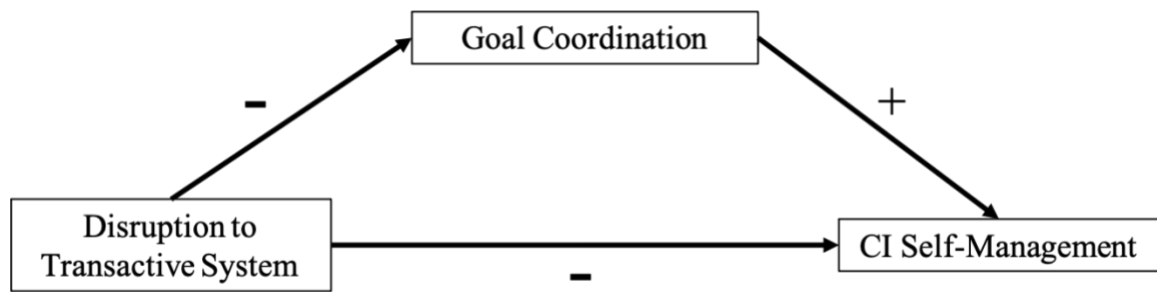


Figure 2

Hypothesis 2 Conceptual Model of Mediation

Hypothesis 3: Relationship factors moderate the relation between disruption to the transactive system and chronic illness self-management. I hypothesized (3a) social support, (3b) goal responsiveness, and (3c) health communication efficacy would each moderate the relation between disruption to the transactive system and CI self-management, such that (3a) social support, (3b) goal responsiveness, and (3c) health

communication efficacy would buffer the negative effect of disruption to the transactive system on CI self-management.

Hypothesis 4: Relationship factors predict chronic illness self-management. I

hypothesized that the relationship factors of (4a) social support, (4b) goal responsiveness, and (4c) health communication efficacy would predict better CI self-management.

Hypothesis 5: The degree of disruption to the transactive system will predict chronic illness self-management. I hypothesized the degree of disruption to the transactive system would predict CI self-management, such that a higher perceived degree of disruption to the transactive system would predict worse CI self-management.

CHAPTER 2

METHOD

Participants

335 participants were recruited from Prolific, and 194 participants were recruited from social media (i.e., Facebook and Instagram). Romantic partners of people who completed the survey from social media were contacted via email if their partner provided a different email address from their own for them at the end of the survey; 4 partners completed the partner survey, but two cases were deleted due to providing the same email address (assumed to be the same person responding twice). Due to lack of data from romantic partners, data from PLCIs only were used for analyses. Participant cases from social media were deleted if they were (1) from duplicate IP addresses, (2) contained duplicate responses from open-ended text questions (i.e., age, gender, race[s]/ethnicity[ies], and email addresses) and were completed on the same date within a similar time period (e.g., morning or evening), or (3) completed less than 50% of the survey, which indicated no responses to questionnaires about relationship factors or CI self-management. 45 participant cases from social media were retained and combined with the participant data from Prolific, resulting in a total sample of 380 participants. I had intended on recruiting 400 participants for this study, but recruitment stopped after establishing 380 viable participant cases due to time and financial constraints. Statistical power was not significantly reduced due to the drop in cases from 400 to 380.

Participants were eligible to participate if they (a) had been diagnosed with a chronic physical illness, (b) were at least 18 years of age, (c) were currently living in the United States, and (d) were cohabiting with a relationship partner. Participants from Prolific were compensated \$1.58 via Prolific (a rate determined to be at or above minimum wage per the site guidelines); participants recruited from social media were eligible to win one of ten \$25 electronic gift cards.

Procedure

Eligibility Screening and Online Informed Consent

Eligibility screening for participants with a Prolific account was performed using previously provided prescreening answers on Prolific by account holders. Only eligible participants (i.e., have a chronic illness, live in the United States, and live with a romantic partner) had access to view the study description. Participants recruited by word of mouth and social media indicated they met eligibility criteria by reviewing the criteria at the beginning of the survey and continued to participate in the survey. All participants provided electronic informed consent. At conclusion of the study, all participants were debriefed and provided with counseling resources for mental health, coping with living with CIs, and romantic relationships. All study materials and procedures were approved by the University of Georgia's IRB.

Online Survey for PLCIs

Participants were asked to report their perception of the disruption to their routine care for their chronic illness during the COVID-19 pandemic. Participants then responded to counterbalanced measures about their partner's goal responsiveness, received social support, health communication efficacy, and goal coordination. Next, participants

answered questions regarding their CI self-management. Participants then responded to counterbalanced questionnaires about nature relatedness and social desirability. Finally, participants reported their demographic information (i.e., age, gender, race[s]/ethnicity[ies]), including their CI diagnosis from a list of general CI categories.

Measures

Disruption to Routine Care and the Triadic Transactive System. Designed for this study, four items ($\alpha = .59$) assessed the degree of disruption to the physician-PLCI-partner triadic transactive system and to the PLCIs' routine care for chronic illness (Appendix A). Items were "Overall, to what degree has COVID-19 affected your routine healthcare appointments for managing your chronic illness?" Responses were reported on a 1 (*appointments are not at all affected by COVID-19*) to 5 (*appointments are very much affected by COVID-19*) scale; "To what degree has COVID-19 affected the frequency of your routine healthcare appointments for managing your chronic illness?" Responses were reported on a 1 (*appointments are less frequent now than before COVID-19*) to 5 (*appointments are more frequent now than before COVID-19*) scale; "To what degree has COVID-19 affected the average length of your healthcare appointments (i.e., the amount of time you interact with your physician) for managing your chronic illness?" Responses were reported on a 1 (*appointments are much shorter now than before COVID-19*) to 5 (*appointments are much longer now than before COVID-19*); "To what degree has COVID-19 affected the quality of your healthcare appointments for managing your chronic illness?" Responses were reported on a 1 (*appointments are much lower quality now than before COVID-19*) to 5 (*appointments are much higher quality now than before*

COVID-19). Responses were reverse scored as appropriate and averaged such that higher scores indicated more disruption to care.

CI Self-Management. The Revised Partners in Health Scale (Smith et al., 2017) is a 12-item ($\alpha = .94$) measure that assessed the degree of managing a chronic condition with four subscales: knowledge of illness and treatment, patient-health professional partnership, recognition and management of symptoms, and coping with chronic illness (Appendix B). An example item was “I keep track of my symptoms and early warning signs (e.g. blood sugar levels, peak flow, weight, shortness of breath, pain, sleep problems, mood)”. Responses were rated on a 1 (*very good* or *always*) to 9 (*very poor* or *never*) scale and averaged such that higher scores indicated better CI self-management.

Social Support. The Berlin Social Support Scales (Schwarzer & Schulz, 2000) assessed received social support using 14 items ($\alpha = .94$) that were designed specifically for people living with cancer and their romantic partners (Appendix C). An example item was “My partner took care of things I could not manage on my own.” Responses were rated on a 1 (*strongly disagree*) to 4 (*strongly agree*) scale and averaged such that higher scores indicated higher received social support.

Goal Responsiveness. A 7-item questionnaire ($\alpha = .91$) designed for this study (based on theory from Fitzsimons et al., 2015) measured perceived partner goal responsiveness (Appendix D). An example item was “My partner behaves in a way that is consistent with my goals that help manage my chronic illness.” Responses were rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale and averaged such that higher scores indicated higher levels of perceived partner goal responsiveness.

Health Communication Efficacy. The Couples' Illness Communication Scale (Arden-Close et al., 2010) consists of 4 items ($\alpha = .79$) that assessed how confident a person was discussing CI-related topics with their romantic partner (Appendix E). An example item was "It is hard for me to express feelings about my illness to my partner." Responses were rated on a 1 (*disagree strongly*) to 5 (*agree strongly*) scale. Responses were appropriately reverse scored and averaged such that higher scores indicated a higher degree of health communication efficacy.

Goal Coordination. A 3-item questionnaire ($\alpha = .63$) designed for this study (based on theory from Fitzsimons et al., 2015) measured perceived goal coordination (Appendix F). The items were: "My partner and I divide tasks related to my chronic illness (e.g., prepare food, pick up medications from the pharmacy, research illness-specific information) based on each other's strengths"; "My partner and I act in ways that will both help manage my chronic illness and also help them achieve their goals, too"; "My partner behaves in ways that conflict with my management of my chronic illness (reverse scored)". Responses were rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. Responses were reverse scored where appropriate and averaged such that higher scores indicated higher levels of perceived goal coordination.

Common Method Bias and Social Desirability Measures. The short-form C Marlowe-Crowne Social Desirability scale (MC-C) is a 13-item measure ($\alpha = .75$) which assessed a person's need for approval (Reynolds, 1982) and has been used to partial out variance due to social desirability bias in the evaluation of chronic disease self-management interventions (Nolte et al., 2013; Appendix G). Responses on the MC-C were rated on a true-false scale (Crowne & Marlowe, 1960); responses that indicated responding in a

socially desirable manner were added together for a summed score, such that a higher summed score indicated a higher degree of social desirability bias. The MC-C was used to create a latent covariate to statistically control social desirability bias in participants' responses. The NR-6 is a 6-item ($\alpha = .84$) measure which assessed nature relatedness, a person's perception of how connected they feel to nature (Nisbet & Zelenski, 2013), and was theoretically unrelated to the proposed measures (Appendix H). Responses on the NR-6 were rated on a 1 (*disagree strongly*) to 5 (*agree strongly*) scale and were averaged such that higher scores indicate higher levels of nature relatedness. The NR-6 was used to create a measured latent marker variable to statistically control common method bias in participants' responses.

Demographic Information. Demographic information was collected using 4 items (Appendix I): "What is your age?" (*open-ended response*); "What is your gender?" (*open-ended response*); "What is your race(s)/ethnicity(ies)?" (*open-ended response*); "In which general category(ies) does your chronic physical illness belong? You may select more than one option" (*Arthritis or Bone/Joint Disease; Autoimmune Disorder (e.g., Lupus, Chronic Thyroid Disorder); Cardiovascular Disease (e.g., Heart Disease, Stroke); Cancers; Chronic Kidney Disease; Chronic Respiratory Disease (e.g., Chronic Obstructed Pulmonary Disease [COPD], Asthma); Diabetes; Neurological and/or Nervous System (e.g., Epilepsy, Multiple Sclerosis); Gastrointestinal (e.g., Inflammatory Bowel Disease [IBD], Gastroesophageal Reflux Disease [GERD], Irritable Bowel Syndrome [IBS]); Other/Not Listed/Prefer to List Myself; Prefer Not to Answer*).

CHAPTER 3

RESULTS

I used SAS 9.4 and *Mplus* 8 (Muthén & Muthén, 1998-2017) to conduct all analyses. Interactions were plotted, and simple, direct, and indirect effects were evaluated using the PROCESS macro for SAS (version 3; Hayes, 2018). For analyses involving interactions (Hypotheses 1 and 3), I mean-centered the predictor variables.

Statistical Power

A sample of 380 participants with $\alpha = .05$ had .8 power to detect an interaction with an effect size of Cohen's $d = .29$, a small to medium effect, with a specific pattern of simple effects such that the predicted negative effect of disruption to the transactive system on CI self-management would become non-significant among high levels of each moderator (i.e., social support, goal responsiveness, and health communication efficacy) but would remain significant and negative among low levels of each moderator, and CI self-management would be relatively better among people high (vs. low) on each moderator (Giner-Sorolla, 2018). A sample of 380 participants with $\alpha = .05$ had .8 power to detect a mediation indirect effect size of $ab = .067$, representing small to medium a and b path sizes (Fritz & MacKinnon, 2007).

Demographic Information and Descriptive Statistics

Participant demographic information is provided in Table 1, and descriptive statistics and scale intercorrelations are provided in Table 2.

Table 1

Demographic Information

	Mean (SD), Min - Max
Age (N = 378)	43.51 (13.26), 20 – 81 years
	Frequency (Percentage)
Gender (N = 376)	
Man/Male	156 (41.49%)
Woman/Female	217 (57.71%)
Non-Binary	3 (0.80%)
Race/Ethnicity (N = 376)	
White	301 (80.05%)
Black	29 (7.71%)
Asian American/Asian or Pacific Islander	22 (5.85%)
Hispanic/Latinx	10 (2.66%)
Biracial/Multiracial	9 (2.39%)
Middle Eastern	3 (0.80%)
Native American	2 (0.53%)
Chronic Illness (N = 377)	
One Chronic Illness	
Diabetes	59 (15.65%)
Gastrointestinal	30 (7.96%)
Cardiovascular Disease	20 (5.31%)
Autoimmune Disorder	16 (4.24%)
Chronic Respiratory Disease	16 (4.24%)
Other/Not Listed/Prefer to List Myself	15 (3.98%)
Neurological and/or Nervous System	14 (3.71%)
Prefer Not to Answer	9 (2.39%)
Arthritis or Bone/Joint Disease	7 (1.86%)
Cancer(s)	7 (1.86%)
Chronic Kidney Disease	1 (0.27%)
Two Chronic Illnesses	109 (28.91%)
Three Chronic Illnesses	44 (11.67%)
Four Chronic Illnesses	19 (5.04%)
Five Chronic Illnesses	8 (2.12%)
Six Chronic Illnesses	2 (0.53%)
Seven Chronic Illnesses	1 (0.27%)

Table 2

Descriptive Statistics and Scale Intercorrelations

Scale	M (SD)	1	2	3	4	5	6	7	8
1. Disruption to Routine Care and Transactive System	3.37 (0.69)	-							
2. Goal Coordination	3.73 (0.94)	.13*	-						
3. CI Self-Management	6.90 (1.56)	.15**	.36***	-					
4. Social Support	3.12 (0.60)	.12*	.63***	.32***	-				
5. Goal Responsiveness	3.88 (0.79)	.09	.67***	.42***	.78***	-			
6. Health Communication Efficacy	3.84 (0.96)	.08	.57***	.46***	.60***	.69***	-		
7. Nature Relatedness (CMV)	3.54 (0.87)	.10*	.22***	.15**	.20***	.21***	.13**	-	
8. Social Desirability Bias	6.21 (3.11)	-.10*	.13*	.25***	.18***	.16**	.17***	.17***	-

Note: All responses were on 1 to 5 scale, except for CI self-management (9-point), social support (4-point), and social desirability bias (13-point).
CMV = Common Method Variance variable

* $p < .05$, ** $p < .01$, *** $p < .001$

Hypothesis 1

I separately tested for evidence of moderated mediation with each relationship factor as a moderator of the relation between transactive system disruption and goal coordination predicting CI self-management using the PROCESS macro Model 7 with 95% confidence intervals with 5000 bootstrap samples.

Hypothesis 1a. I conducted a test of moderated mediation with social support as a moderator of the relation between transactive system disruption and goal coordination predicting CI self-management (Figure 3). Hypothesis 1a was not supported. The indirect effect of transactive system disruption through goal coordination on CI self-management was not contingent on levels of received social support, $a_3b = 0.047$, bootstrap SE = 0.057, bootstrap 95% CI [-0.071, 0.156]. There was a significant direct effect of transactive system disruption on CI self-management, $c' = 0.242$, SE = 0.11, $t(377) = 2.22$, $p = .027$, 95% CI [0.028, 0.457], such that as goal coordination and social support were held constant, higher transactive system disruption predicted better CI self-management.

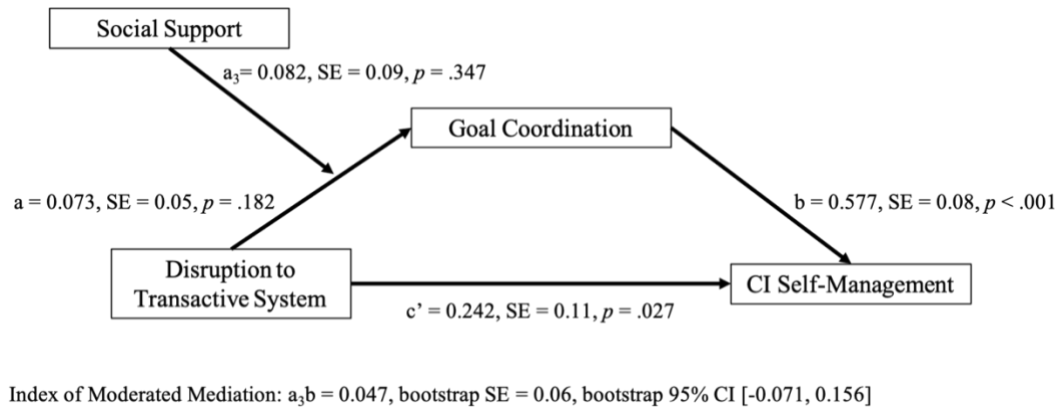


Figure 3

Hypothesis 1a Moderated Mediation Model with Social Support Moderating the Relation between Disruption to the Transactive System on Goal Coordination Predicting Chronic Illness Self-Management

Hypothesis 1b. I conducted a test of moderated mediation with goal responsiveness as a moderator of the relation between transactive system disruption and goal coordination predicting CI self-management (Figure 4). Hypothesis 1b was not supported. The indirect effect of transactive system disruption through goal coordination on CI self-management was not contingent on levels of goal responsiveness, $a_3b = -0.042$, bootstrap SE = 0.046, bootstrap 95% CI [-0.130, 0.051]. There was a significant direct effect of transactive system disruption on CI self-management, $c' = 0.242$, SE = 0.11, $t(377) = 2.22$, $p = .027$, 95% CI [0.028, 0.457], such that as goal coordination and goal responsiveness were held constant, higher transactive system disruption predicted better CI self-management.

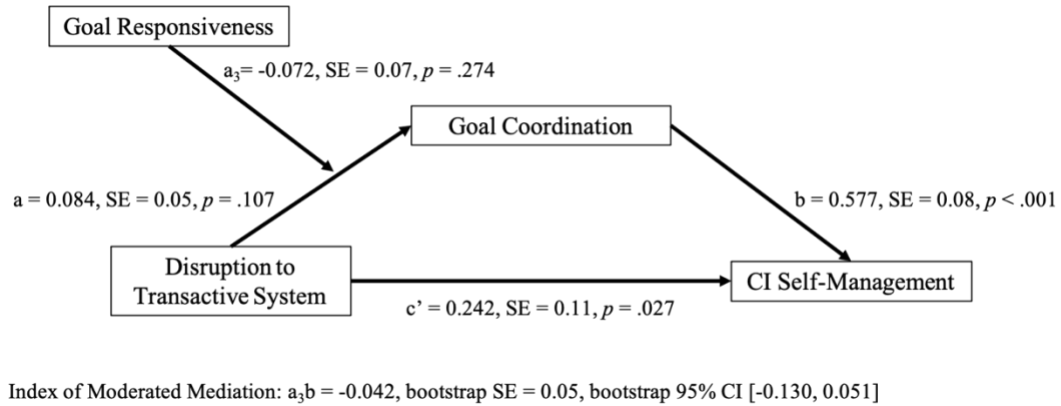


Figure 4

Hypothesis 1b Moderated Mediation Model with Goal Responsiveness Moderating the Relation between Disruption to the Transactive System on Goal Coordination Predicting Chronic Illness Self-Management

Hypothesis 1c. I conducted a test of moderated mediation with health communication efficacy as a moderator of the relation between transactive system disruption and goal coordination predicting CI self-management (Figure 5). Hypothesis 1c was not supported. The indirect effect of transactive system disruption through goal coordination on CI self-management was not contingent on levels of health communication efficacy, $a_3b = -0.028$, bootstrap SE = 0.042, bootstrap 95% CI [-0.114, 0.052]. There was a significant direct effect of transactive system disruption on CI self-management, $c' = 0.242$, SE = 0.11, $t(377) = 2.22$, $p = .027$, 95% CI [0.028, 0.457], such that as goal coordination and health communication efficacy were held constant, higher transactive system disruption predicted better CI self-management.

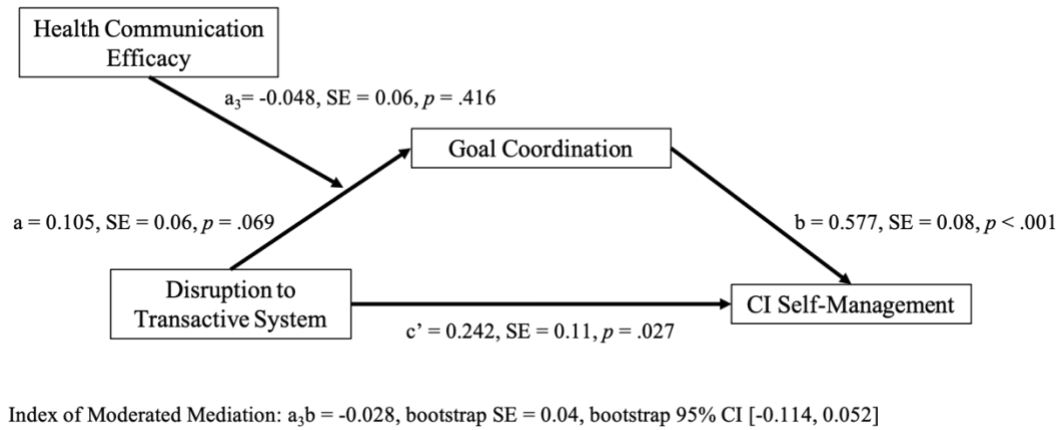


Figure 5

*Hypothesis 1c Moderated Mediation Model with Health Communication Efficacy
Moderating the Relation between Disruption to the Transactive System on Goal
Coordination Predicting Chronic Illness Self-Management*

Hypothesis 2

The mediating effect of goal coordination between transactive system disruption and CI self-management was tested using the PROCESS macro Model 4 with 95% confidence intervals with 5000 bootstrap samples (Figure 6). Hypothesis 2 was not supported. Although goal coordination significantly mediated the relation between transactive system disruption and CI self-management, $ab = 0.099$, bootstrap SE = 0.044, bootstrap 95% CI [0.017, 0.189], transactive system disruption significantly *positively* predicted goal coordination, $a = 0.172$, SE = 0.069, $t(378) = 2.48$, $p = .013$, 95% CI [0.036, 0.308], and, in turn, goal coordination significantly positively predicted CI self-management, $b = 0.577$, SE = 0.080, $t(377) = 7.19$, $p < .001$, 95% CI [0.419, 0.735].

Transactive system disruption also had a significant direct effect on CI self-management, $c' = 0.242$, $SE = 0.109$, $t(378) = 2.22$, $p = .027$, 95% CI [0.028, 0.457]. In brief, transactive system disruption promotes better CI self-management through *strengthened* goal coordination with one's romantic partner.

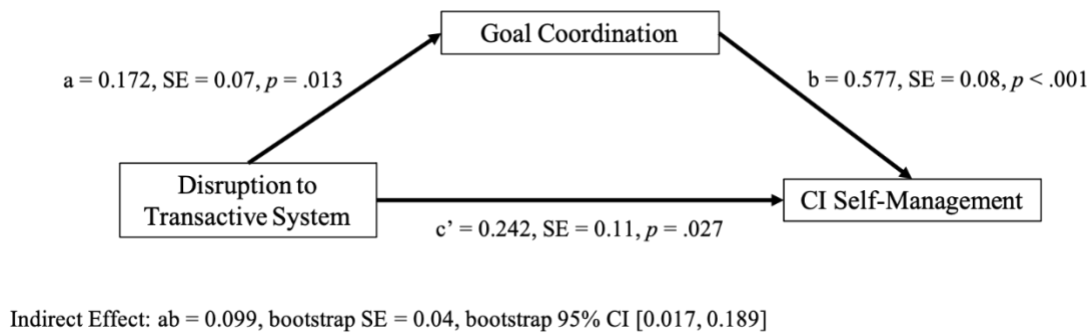


Figure 6

Hypothesis 2 Mediation Model with Disruption to the Transactive System Directly and Indirectly Predicting Chronic Illness Self-Management through Goal Coordination

Hypothesis 3

I separately tested for moderation of the relation between transactive system disruption and CI self-management by each relationship factor.

Hypothesis 3a. I tested for evidence of moderation of the relation between transactive system disruption and CI self-management by social support. Hypothesis 3a was not supported. Social support did not significantly moderate the relation between transactive system disruption and CI self-management, $b = -0.225$, $SE = 0.18$, $t(376) = -1.28$, $p =$

.200, partial $\eta^2 = 0.004$, 95% CI partial η^2 [0.000, 0.027] (Figure 7). Both conditional effects of transactive system disruption and social support on CI self-management were significant such that among people who reported receiving an average amount of social support, an increase in transactive system disruption predicted better CI self-management, $b = 0.258$, $SE = 0.11$, $t(376) = 2.34$, $p = .020$, partial $\eta^2 = 0.014$, 95% CI partial η^2 [0.0002, 0.047], and among people who reported average transactive system disruption, an increase in received social support predicted better CI self-management, $b = 0.795$, $SE = 0.13$, $t(376) = 6.29$, $p < .001$, partial $\eta^2 = 0.095$, 95% CI partial η^2 [0.046, 0.154].

The interaction effect between transactive system disruption and social support was not statistically significant. If the observed pattern of simple slopes is accurate for the interaction between transactive system disruption and social support, a sample size of 1,955 participants would be required to determine the interaction effect to be significant with .8 power and $\alpha = .05$. Therefore, it is unlikely this interaction effect is meaningful among PLCIs.

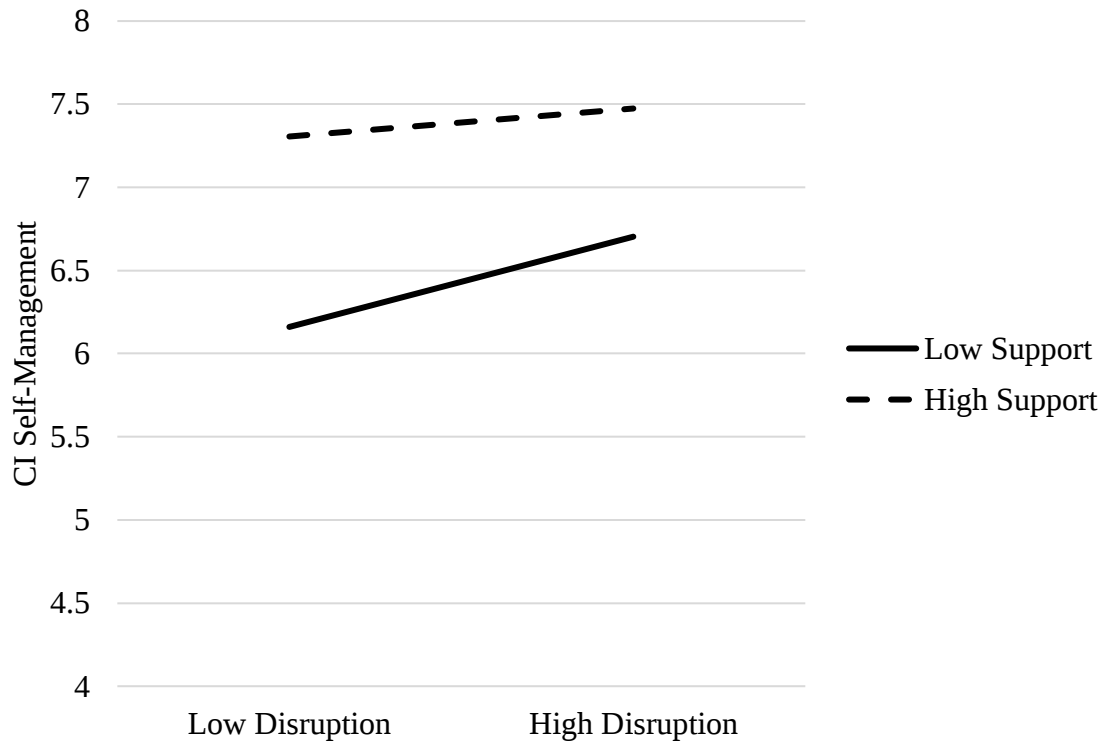


Figure 7

Interaction Effect of Disruption to the Transactive System and Social Support on Chronic Illness Self-Management

Hypothesis 3b. I tested for evidence of moderation of the relation between transactive system disruption and CI self-management by goal responsiveness. Hypothesis 3b was not supported. Partner goal responsiveness did not significantly moderate the relation between transactive system disruption and CI self-management, $b = -0.114$, $SE = 0.13$, $t(376) = -0.85$, $p = .396$, partial $\eta^2 = 0.002$, 95% CI partial η^2 [0.000, 0.020] (Figure 8). Both conditional effects of transactive system disruption and partner goal responsiveness were significant, such that among people with average perceived partner goal responsiveness, an increase in transactive system disruption predicted better CI self-

management, $b = 0.250$, $SE = 0.11$, $t(376) = 2.36$, $p = .019$, partial $\eta^2 = 0.015$, 95% CI partial η^2 [0.0003, 0.047], and among people with average transactive system disruption, an increase in partner goal responsiveness predicted better CI self-management, $b = 0.810$, $SE = 0.09$, $t(376) = 8.70$, $p < .001$, partial $\eta^2 = 0.164$, 95% CI partial η^2 [0.104, 0.233].

The interaction effect between transactive system disruption and goal responsiveness was not statistically significant. If the observed pattern of simple slopes is accurate for the interaction between transactive system disruption and goal responsiveness, a sample size of 3,913 participants would be required to determine the interaction effect to be significant with .8 power and $\alpha = .05$. Therefore, it is unlikely this interaction effect is meaningful among PLCIs.

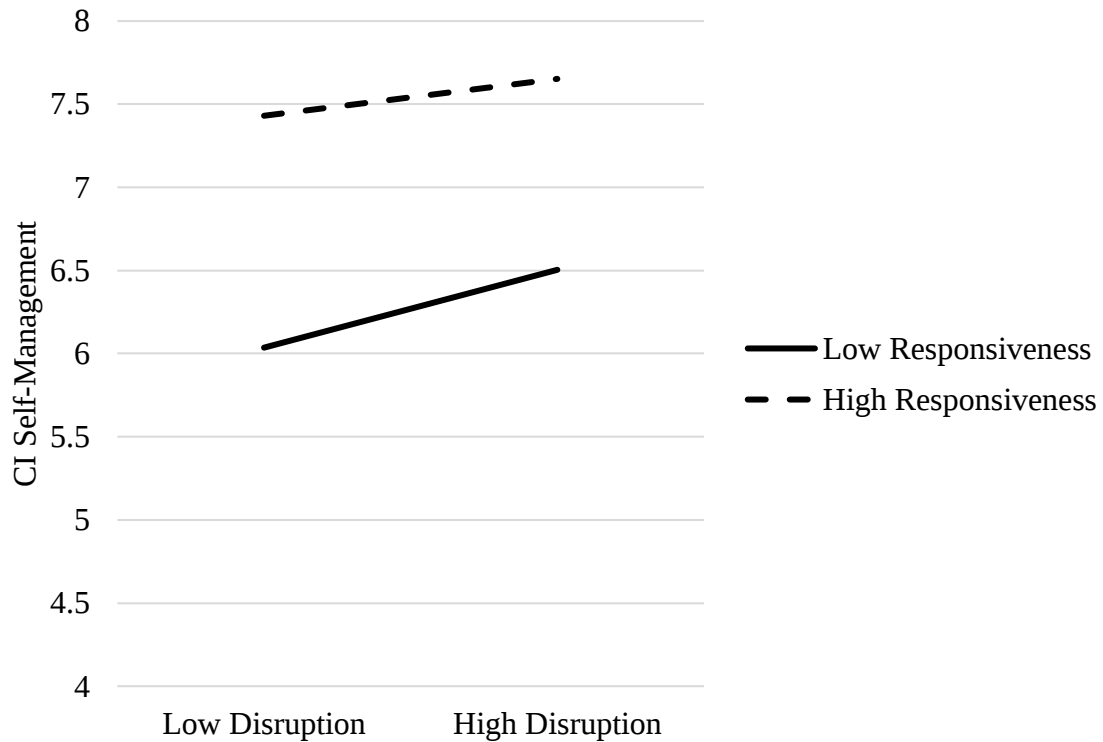


Figure 8

Interaction Effect of Disruption to the Transactive System and Goal Responsiveness on Chronic Illness Self-Management

Hypothesis 3c. I tested for evidence of moderation of the relation between transactive system disruption and CI self-management by health communication efficacy.

Hypothesis 3c was not supported because the obtained pattern of simple slopes was not as hypothesized. There was a significant interaction between transactive system disruption and health communication efficacy, $b = -0.254$, $SE = 0.11$, $t(376) = -2.41$, $p = .016$, partial $\eta^2 = 0.015$, 95% CI partial η^2 [0.0004, 0.048], .67 power with $\alpha = .05$ (Figure 9), such that among people with relatively high health communication efficacy (+1SD), transactive system disruption did not have a significant effect on CI self-management, $b =$

-0.010, $SE = 0.15$, $t(376) = -0.064$, $p = 0.949$, but among people with relatively low health communication efficacy (-1SD), transactive system disruption had a significant *positive* effect on CI self-management, $b = 0.481$, $SE = 0.14$, $t(376) = 3.487$, $p < .001$. In brief, the degree of transactive system disruption only significantly improved a person's CI self-management if they had relatively low health communication efficacy with their romantic partner. Relative to people with low health communication efficacy, people with high health communication efficacy had consistently better CI self-management.

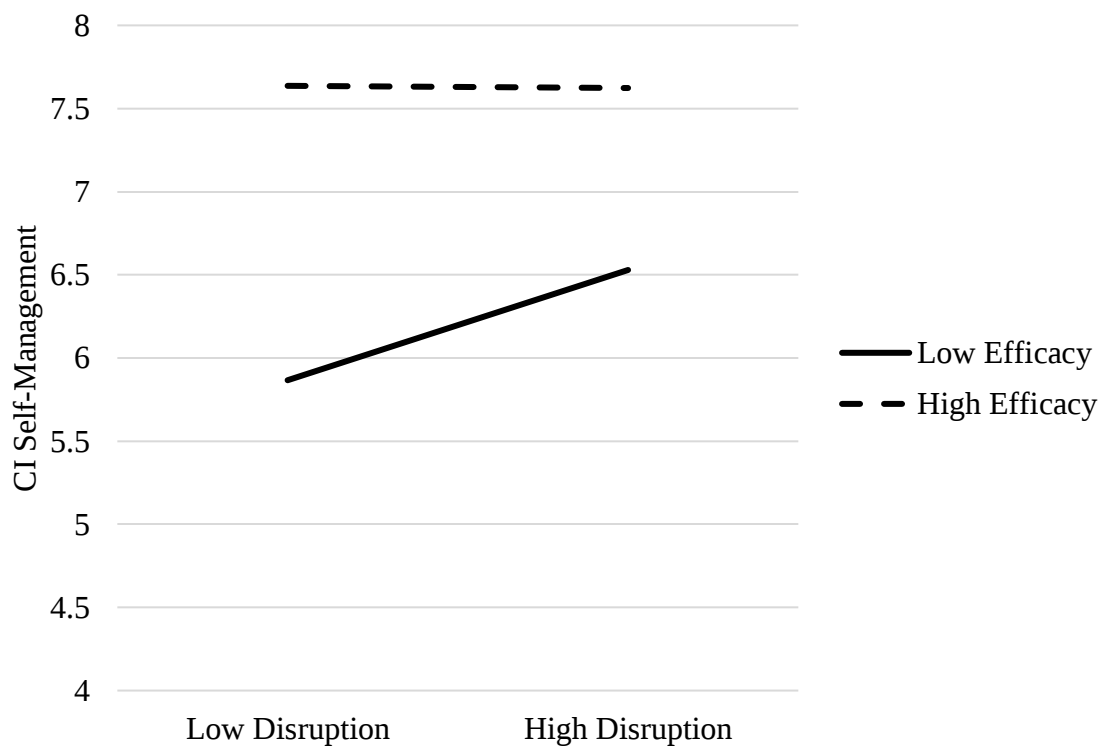


Figure 9

Interaction Effect of Disruption to the Transactive System and Health Communication Efficacy on Chronic Illness Self-Management

Hypothesis 4

I first separately regressed CI self-management on each relationship factor and then simultaneously regressed CI self-management on all relationship factors.

Hypothesis 4a. I regressed CI self-management on social support. Hypothesis 4a was supported, $b = 0.827$, $SE = 0.13$, $t(378) = 6.55$, $p < .001$, partial $\eta^2 = 0.102$, 95% CI partial η^2 [0.051, 0.162], such that higher perceived received social support from one's romantic partner predicted better CI self-management.

Hypothesis 4b. I regressed CI self-management on goal responsiveness. Hypothesis 4b was supported, $b = 0.826$, $SE = 0.09$, $t(378) = 8.88$, $p < .001$, partial $\eta^2 = 0.173$, 95% CI partial η^2 [0.109, 0.239], such that higher perceived partner goal responsiveness predicted better CI self-management.

Hypothesis 4c. I regressed CI self-management on health communication efficacy. Hypothesis 4c was supported, $b = 0.744$, $SE = 0.07$, $t(378) = 10.07$, $p < .001$, partial $\eta^2 = 0.212$, 95% CI partial η^2 [0.143, 0.280], such that higher perceived health communication efficacy with one's romantic partner predicted better CI self-management.

Hypothesis 4 Multiple Regression. When CI self-management was regressed on social support, partner goal responsiveness, and health communication efficacy, perceived received social support from one's romantic partner was no longer a significant predictor of CI self-management controlling for partner goal responsiveness and health communication efficacy, $b = -0.153$, $SE = 0.19$, $t(376) = -0.82$, $p = .414$, partial $\eta^2 = 0.002$, 95% CI partial η^2 [0.000, 0.020]. Partner goal responsiveness remained a significant predictor of CI self-management controlling for social support and health

communication efficacy, such that higher perceived partner goal responsiveness predicted better CI self-management, $b = 0.455$, $SE = 0.16$, $t(376) = 2.85$, $p = .005$, partial $\eta^2 = 0.018$, 95% CI partial η^2 [0.002, 0.058]. Health communication efficacy also remained a significant predictor of CI self-management controlling for social support and partner goal responsiveness, such that higher perceived health communication efficacy with one's romantic partner predicted better CI self-management, $b = 0.546$, $SE = 0.10$, $t(376) = 5.36$, $p < .001$, partial $\eta^2 = 0.071$, 95% CI partial η^2 [0.029, 0.125].

Although highly correlated ($r = .78$), social support and goal responsiveness are posited to represent related but distinct constructs of partner influence on the regulation of CI self-management. When CI self-management was regressed on all three relationship factors, goal responsiveness remained a significant predictor whereas social support did not. Previous research finds that perceived partner responsiveness is a moderator of the relation between social support and health outcomes over time (Selcuk & Ong, 2013), suggesting the nuance of receiving support that accommodates one's needs and preferences (i.e., goal responsiveness) matters for self-regulation of important goals (Kappes & Shrout, 2011; Maisel & Gable, 2009). Because the PLCI and romantic partner share goals for effective and sustained CI self-management, I suggest partner goal responsiveness may provide more predictive utility for CI self-management than received social support.

Hypothesis 5

I regressed CI self-management on transactive system disruption. Hypothesis 5 was not supported. Contrary to Hypothesis 5, higher perceived transactive system

disruption predicted *better* CI self-management, $b = 0.342$, $SE = 0.12$, $t(378) = 2.97$, $p = .003$, partial $\eta^2 = 0.023$, 95% CI partial $\eta^2 [0.003, 0.060]$.

Robustness Check against Common Method Variance and Social Desirability Bias

I used the construct level correction method of the measured latent marker variable approach (Chin et al., 2013; Tehseen et al., 2017) to evaluate the robustness of the current study's results against common method variance. Using *Mplus* 8 (Muthén & Muthén, 1998-2017), I first created a latent common method marker variable using a theoretically unrelated scale (i.e., nature relatedness; Nisbet & Zelenski, 2013) that was assessed at the same time as the other measures of the current study. I then included the latent common method marker variable into each structural equation model of Hypotheses 1 – 5 to account for the variance due to common method bias in the statistical models. Results for all models with and without the common method marker variable are presented in Table 3. Using *Mplus* 8 (Muthén & Muthén, 1998-2017), I additionally examined the robustness of the study's results against social desirability bias by including scores on a social desirability scale (Reynolds, 1982) as a latent covariate in each structural equation model of Hypothesis 1 – 5 to account for the variance due to social desirability bias in the statistical models. Results for all models with and without the latent social desirability bias covariate are presented in Table 4. The current study's results held with one exception: the effect of goal responsiveness on CI self-management in the latent multiple regression model (Hypothesis 4) became significant when the model accounted for common method variance (Table 3). The current study's results were robust against social desirability bias (Table 4).

Table 3

Robustness Check against Common Method Variance

Regression without Common Method Marker Variable					Regression with Common Method Marker Variable				Absolute Value of Difference in Coefficients
Hypothesis	Coefficient	z-value	p-value	R ²	Coefficient	z-value	p-value	R ²	
1a	a ₃ b = 0.096	z = 0.82	p = .412	R ² = .201	a ₃ b = 0.091	z = 0.81	p = .416	R ² = .196	.005
1b	a ₃ b = -0.078	z = -0.67	p = .505	R ² = .224	a ₃ b = -0.084	z = -0.74	p = .460	R ² = .220	.006
1c	a ₃ b = -0.002	z = -0.01	p = .991	R ² = .223	a ₃ b = -0.046	z = -0.35	p = .729	R ² = .216	.044
2	ab = 0.107	z = 0.71	p = .481	R ² = .145	ab = 0.095	z = 0.51	p = .607	R ² = .177	.031
3a	b = -0.701	z = -1.74	p = .082	R ² = .177	b = -0.735	z = -1.83	p = .068	R ² = .181	.034
3b	b = -0.665	z = -1.59	p = .111	R ² = .257	b = -0.665	z = -1.63	p = .102	R ² = .258	.000
3c	b = -1.350	z = -2.67	p = .007	R ² = .394	b = -1.513	z = -2.58	p = .010	R ² = .409	.083
4 support response efficacy	b = -0.278	z = -1.04	p = .298	R ² = .280	b = -0.130	z = -0.66	p = .510	R ² = .243	.148
	b = 0.249	z = 0.76	p = .445		b = 0.430	z = 2.13	p = .033		.181*
	b = 0.798	z = 4.44	p < .001		b = 0.591	z = 5.30	p < .001		.207
4a	b = 0.833	z = 6.20	p < .001	R ² = .116	b = 0.788	z = 5.79	p < .001	R ² = .123	.045
4b	b = 0.955	z = 7.49	p < .001	R ² = .184	b = 0.925	z = 7.14	p < .001	R ² = .188	.030
4c	b = 0.761	z = 8.31	p < .001	R ² = .279	b = 0.745	z = 8.14	p < .001	R ² = .286	.016
5	b = 1.347	z = 2.45	p = .014	R ² = .056	b = 1.297	z = 2.41	p = .016	R ² = .076	.050

*change in coefficient significance due to including common method marker variable

Table 4

Robustness Check against Social Desirability Bias

	Regression without Social Desirability Variable				Regression with Social Desirability Variable				Absolute Value of Difference in Coefficients
Hypothesis	Coefficient	z-value	p-value	R ²	Coefficient	z-value	p-value	R ²	
1a	a ₃ b = 0.096	z = 0.82	p = .412	R ² = .201	a ₃ b = 0.082	z = 0.75	p = .452	R ² = .246	.014
1b	a ₃ b = -0.078	z = -0.67	p = .505	R ² = .224	a ₃ b = -0.066	z = -0.59	p = .553	R ² = .267	.012
1c	a ₃ b = -0.002	z = -0.01	p = .991	R ² = .223	a ₃ b = 0.009	z = 0.08	p = .938	R ² = .259	.007
2	ab = 0.107	z = 0.71	p = .481	R ² = .145	ab = .112	z = 0.59	p = .553	R ² = .210	.005
3a	b = -0.701	z = -1.74	p = .082	R ² = .177	b = -0.845	z = -1.92	p = .055	R ² = .238	.144
3b	b = -0.665	z = -1.59	p = .111	R ² = .257	b = -0.735	z = -1.68	p = .094	R ² = .309	.070
3c	b = -1.350	z = -2.67	p = .007	R ² = .394	b = -1.455	z = -2.54	p = .011	R ² = .434	.105
4 support response efficacy	b = -0.278	z = -1.04	p = .298	R ² = .280	b = -0.261	z = -1.29	p = .197	R ² = .311	.017
	b = 0.249	z = 0.76	p = .445		b = 0.395	z = 1.96	p = .051		.146
	b = 0.798	z = 4.44	p < .001		b = 0.537	z = 4.66	p < .001		.261
4a	b = 0.833	z = 6.20	p < .001	R ² = .116	b = 0.623	z = 5.62	p < .001	R ² = .187	.210
4b	b = 0.955	z = 7.49	p < .001	R ² = .184	b = 0.715	z = 7.40	p < .001	R ² = .263	.240
4c	b = 0.761	z = 8.31	p < .001	R ² = .279	b = 0.635	z = 6.22	p < .001	R ² = .327	.126
5	b = 1.347	z = 2.45	p = .014	R ² = .056	b = 1.817	z = 2.21	p = .027	R ² = .178	.470

Exploring Gender Differences in Associations of Disruption to the Transactive System with Goal Coordination, Relationship Factors, and Chronic Illness Self-Management

I explored whether there were differences in the associations of disruption to the transactive system with goal coordination, relationship factors, and CI self-management between men living with CI and women living with CI by evaluating trends in the scale intercorrelations among male participants and female participants (Table 5). Due to lack of data ($n = 3$), participants who identified their gender as non-binary were not included in this exploratory analysis.

There is evidence that disruption to routine care and the transactive system affect men and women living with CI's goal coordination, relationship factors, and CI self-management differently. Among women living with CI, disruption to the transactive system was not significantly associated with their goal coordination with their romantic partner, received social support, partner goal responsiveness, health communication efficacy with their romantic partner, or the quality of their CI self-management (r 's $< .09$). Conversely, men living with CI experienced strengthened goal coordination with their romantic partner, increased partner goal responsiveness and health communication efficacy, as well as better CI self-management related to more disruption to routine care (r 's $> .18$); the association between disruption to the transactive system and social support was not significant ($r = .13$) but was trending in the same direction as the correlations between disruption to the transactive system and the other relationship factors of partner goal responsiveness and health communication efficacy.

Table 5

Descriptive Statistics and Scale Intercorrelations among Female Participants and Male Participants

Women Living with Chronic Illness (n = 218)									
Scale	M (SD)	1	2	3	4	5	6	7	8
1. Disruption to Routine Care and Transactive System	3.44 (0.70)	-							
2. Goal Coordination	3.74 (0.99)	.03	-						
3. CI Self-Management	6.93 (1.48)	.02	.30***	-					
4. Social Support	3.10 (0.65)	.09	.69***	.29***	-				
5. Goal Responsiveness	3.83 (0.84)	-.01	.71***	.35***	.80***	-			
6. Health Communication Efficacy	3.78 (0.99)	-.00	.56***	.47***	.60***	.71***	-		
7. Nature Relatedness (Common Method Variable)	3.48 (0.90)	.03	.23***	.15*	.22**	.21**	.16*	-	
8. Social Desirability Bias	5.96 (3.13)	-.13 [†]	.17*	.30***	.15*	.19**	.20**	.17*	-
Men Living with Chronic Illness (n = 152)									
Scale	M (SD)	1	2	3	4	5	6	7	8
1. Disruption to Routine Care and Transactive System	3.32 (0.66)	-							
2. Goal Coordination	3.78 (0.86)	.26**	-						
3. CI Self-Management	6.94 (1.67)	.27***	.42***	-					
4. Social Support	3.19 (0.52)	.13	.51***	.35***	-				
5. Goal Responsiveness	4.02 (0.66)	.23**	.60***	.51***	.70***	-			
6. Health Communication Efficacy	3.99 (0.89)	.18*	.58***	.43***	.54***	.61***	-		
7. Nature Relatedness (Common Method Variable)	3.62 (0.83)	.22**	.19*	.14	.14	.18*	.06	-	
8. Social Desirability Bias	6.61 (3.10)	-.06	.06	.20*	.21**	.10	.10	.18*	-

Note: All responses were on 1 to 5 scale, except for CI self-management (9-point), social support (4-point), and social desirability bias (13-point).

* $p < .05$, ** $p < .01$, *** $p < .001$, [†] $p < .06$

Exploring Race Differences in Associations of Disruption to the Transactive System with Goal Coordination, Relationship Factors, and Chronic Illness Self-Management

I explored whether there were differences in the associations of disruption to the transactive system with goal coordination, relationship factors, and CI self-management between White people living with CI and Black, Indigenous, and People of Color (BIPOC) living with CI by evaluating trends in the scale intercorrelations among White participants and BIPOC participants (Table 6).

There is evidence that disruption to routine care and the transactive system affect White people living with CI's and BIPOC living with CI's goal coordination, relationship factors, and CI self-management differently. Among White people living with CI, disruption to the transactive system had no significant effect on their goal coordination with their romantic partner, received social support, partner goal responsiveness, health communication efficacy with their romantic partner, or the quality of their CI self-management ($r's < .05$). Conversely, BIPOC living with CI experienced strengthened goal coordination with their romantic partner, increased social support, partner goal responsiveness, and health communication efficacy, as well as better CI self-management related to more disruption to routine care and the transactive system ($r's > .27$).

Table 6

Descriptive Statistics and Scale Intercorrelations among White Participants and Black, Indigenous, and Participants of Color

White People Living with Chronic Illness (n = 297)									
Scale	M (SD)	1	2	3	4	5	6	7	8
1. Disruption to Routine Care and Transactive System	3.45 (0.68)	-							
2. Goal Coordination	3.80 (0.92)	.02	-						
3. CI Self-Management	7.03 (1.51)	.05	.30***	-					
4. Social Support	3.17 (0.59)	.04	.63***	.24***	-				
5. Goal Responsiveness	3.95 (0.75)	-.00	.68***	.35***	.76***	-			
6. Health Communication Efficacy	3.89 (0.94)	-.00	.56***	.40***	.54***	.65***	-		
7. Nature Relatedness (Common Method Variable)	3.56 (0.90)	.06	.17**	.13*	.14*	.15*	.07	-	
8. Social Desirability Bias	6.26 (3.14)	-.14*	.13*	.27***	.15**	.14*	.17**	.16**	-
Black, Indigenous, and People of Color (BIPOC) Living with Chronic Illness (n = 77)									
Scale	M (SD)	1	2	3	4	5	6	7	8
1. Disruption to Routine Care and Transactive System	3.12 (0.67)	-							
2. Goal Coordination	3.51 (0.97)	.44***	-						
3. CI Self-Management	6.47 (1.71)	.38***	.50***	-					
4. Social Support	2.98 (0.61)	.27*	.61***	.52***	-				
5. Goal Responsiveness	3.68 (0.85)	.29*	.66***	.54***	.79***	-			
6. Health Communication Efficacy	3.69 (1.03)	.28*	.62***	.63***	.74***	.79***	-		
7. Nature Relatedness (Common Method Variable)	3.44 (0.76)	.26*	.42***	.21	.43***	.48***	.41***	-	
8. Social Desirability Bias	6.08 (3.05)	-.03	.12	.21	.27*	.26*	.16	.24*	-

Note: All responses were on 1 to 5 scale, except for CI self-management (9-point), social support (4-point), and social desirability bias (13-point).

* $p < .05$, ** $p < .01$, *** $p < .001$

CHAPTER 4

DISCUSSION

Due to the COVID-19 pandemic and US mitigation measures' disruption to routine care for chronic illnesses (CIs), including a transition away from in-person ambulatory care (Chudasama et al., 2020) and reduced hospitalizations for CI acute events (Blecker et al., 2021), CI self-management has been emphasized as a critical way to prevent non-COVID-related morbidity and mortality (Mirsky & Horn, 2020). This disruption to routine care for CIs likely activates new demands of the person living with CI (PLCI) and their informal caregivers, who are usually their cohabiting romantic partners (Eriksson et al., 2019; Martire & Helgeson, 2017), to maintain effective CI self-management. However, navigating the pandemic-adjusted societal and healthcare structures may be difficult for many PLCIs and their informal caregivers and is likely to result in detrimental health outcomes. For example, in the US, people living with epilepsy and their caregivers reported CI self-management challenges of obtaining medications, scheduling appointments with healthcare providers, and social isolation, and one-third of the sample experienced an increase in seizure frequency during the pandemic (Miller et al., 2020). With the responsibility of care largely falling on the PLCI and their romantic partner, the COVID-19 pandemic provides a unique time to better understand how relationship factors and dyadic goal coordination between PLCIs and their romantic partners influence their CI self-management during times of adversity. The current study provides evidence that dyadic goal coordination may be an effective way for PLCIs and

their romantic partners to bolster CI self-management behaviors when PLCIs' routine care is disrupted (Fitzsimons et al., 2015; Martire & Helgeson, 2017) and evaluates how certain relationship factors (i.e., social support, goal responsiveness, and health communication efficacy) are associated with successful goal coordination and predict better CI self-management (Checton et al., 2012; Gallant, 2003; vanDellen, 2019).

In line with previous research (Checton et al., 2012; Chen et al., 2017; DiMatteo, 2004; Gallant, 2003; Magsamen-Conrad et al., 2015; Strom & Egede, 2012; vanDellen, 2019), and as I predicted, people who experienced higher degrees of received social support, partner goal responsiveness, and health communication efficacy reported better CI self-management, further supporting the idea that collaborative relationship factors matter for effective CI self-management (Martire & Helgeson, 2017). In the current study, among PLCIs who experienced an average amount of disruption to their routine care, receiving more social support from one's romantic partner resulted in better CI self-management. In addition, among PLCIs who experienced an average amount of disruption to their routine care, perceiving one's romantic partner as more responsive to one's management-related goals predicted better CI self-management. Lastly, the degree to which PLCIs' disruption to their routine care affected their CI self-management depended on perceived levels of health communication efficacy with one's romantic partner, such that among PLCIs who felt relatively more confident in their ability to discuss CI-related topics with their partner, disruption of routine care did not significantly affect their successful CI self-management.

Contrary to Hypothesis 5, a higher degree of disruption to routine care for CIs during the COVID-19 pandemic predicted *better* CI self-management. One explanation

for this relation may be that disruption to routine care results in decreased objective symptom monitoring and clinician evaluation (e.g., scopes, imaging, blood tests, vital signs measurement), so the self-report CI self-management scale could be inaccurate against objective assessments. However, it is unlikely that a severe symptom or outcome of poor self-management goes unnoticed by the PLCI, making it less probable that the positive relation between disruption to care and self-management is solely due to inaccurate self-reports. Second, it could be the case that disruption to routine care enables avoidance of illness-related feedback from physicians (Sweeny et al., 2010); reporting they were poorly self-managing their CI would require PLCIs to confront decisions about possibly making undesired behavioral changes to their daily lives. Lastly, people may have wanted to portray themselves as good self-managers even in times of difficulty. In the current study, there was a small correlation between CI self-management and social desirability bias ($r = .25$), but accounting for social desirability bias did not significantly change the relation between disruption to care and CI self-management, indicating that people's desire for approval from others cannot fully explain the relation between disruption to care and CI self-management.

Rather, one tested mechanism in the current study is that more disruption to routine care and the transactive system predicted better CI self-management via increased goal coordination with one's romantic partner (Hypothesis 2). Goal coordination is the alignment and integration of people's goal pursuits (Fitzsimons et al., 2015). To the degree that there was a shift in responsibilities from the PLCI-physician relationship to the PLCI-partner relationship, transactive density between the PLCI and their partner increased. According to Transactive Goal Dynamics theory, as transactive density

increases, goal outcomes will be better as long as goal coordination is effective (Fitzsimons et al., 2015). How would goal coordination increase as a result of disruption to care? People draw upon their close others who are instrumental to helping them achieve their goals (Fitzsimons & Fishbach, 2010; Orehek, 2017). Experiencing a loss of connection to instrumental people on whom PLCIs usually rely to maintain good CI management (e.g., physician appointments, pharmacy consultations, professional symptom monitoring and tracking in medical records) may encourage them to turn to their close others, especially their informal caregivers, for goal support.

Taken together, this process may reflect successful dyadic coping with chronic illness. The constructs of social support, partner responsiveness, and health communication efficacy underpin processes in the Cognitive-Transactional Model (CTM) of couples' adaptation to chronic illness (Badr & Acitelli, 2017). According to the CTM, PLCIs first individually create illness representations that lead to illness ownership; from there, appraisals of the illness lead to individual and/or dyadic coping (Badr & Acitelli, 2017). If PLCIs' individual coping strategies are not working, PLCIs may communicate their struggles with their partner (e.g., health communication efficacy), and if the partner is perceived as supportive (e.g., received social support) and responsive (e.g., partner goal responsiveness), the PLCI and their partner may adopt dyadic coping strategies (e.g., goal coordination; Badr & Acitelli, 2017). In the current study, goal coordination was significantly positively associated with social support, goal responsiveness, and health communication efficacy. It is likely that couples had an established pattern of dyadic (or individual) coping with CI before the COVID-19 pandemic severely affected daily life in the US. For people who experienced a high disruption to their routine care and the

transactive system, distress from the pandemic may have triggered a recycling through the dyadic coping process, beginning with adapting their illness representations (e.g., “What is happening?”). Fortunately, among participants in the current study, a high degree of disruption to routine care and the transactive system predicted goal coordination with their partner, suggesting an adaptive response to, what is for many people, a life-altering stressor.

In this study, disruption to routine care and the transactive system affected various groups of PLCIs differently. The patterns of associations between disruption to the transactive system with relationship factors, dyadic goal coordination, and CI self-management were different among women living with CI and men living with CI and among White people living with CI and Black, Indigenous, and People of Color (BIPOC) living with CI. Specifically, there were no significant associations between disruption to the transactive system with relationship factors, dyadic goal coordination, or CI self-management among women living with CI and among White people living with CI, whereas all but one of these associations were significant and positive among men living with CI and among BIPOC living with CI. That is, a higher degree of disruption to the transactive system during the COVID-19 pandemic was associated with improved relationship factors, strengthened goal coordination, and higher quality CI self-management only for certain groups of PLCIs – men living with CI and BIPOC living with CI. These different patterns of associations suggest a need for evaluating regulation of CI self-management goals with a framework that not only accounts for individual differences but also couches CI self-management within PLCIs’ social (e.g., romantic couples) and societal (e.g., healthcare institutions) relationships.

The differences in associations of disruption to the transactive system and relationship factors, dyadic goal coordination, and CI self-management between men living with CI and women living with CI may reflect how male and female romantic partners differentially respond to external stressors as a couple¹. As men living with CI experienced increased disruption to their routine care for CIs during the COVID-19 pandemic, they perceived their romantic partner to be more responsive, supportive, and able to communicate about CI-related topics. Furthermore, men living with CI felt they and their romantic partner became better coordinated in pursuit of effective CI self-management. Likely as a result, men living with CI reported higher quality CI self-management during the same period. On the other hand, women living with CI did not report differences in their romantic partner's interpersonal skills, the couple's goal coordination, or in the quality of their CI self-management in response to increased disruption to their routine care for CIs. In line with previous work, it is probable that female partners of men living with CI responded to the disruption to routine care for CIs and the transactive system by becoming more dyadically interdependent (August & Sorkin, 2010; Taylor et al., 2000; Tomova et al., 2014). That is, as the transactive links between a man living with CI and their physician became fewer and weaker, their female romantic partner likely successfully adopted the CI-management responsibilities into the PLCI-romantic partner transactive system to facilitate the regulation of CI self-management goals (Fitzsimons & Finkel, 2018). In times of stress, women (vs. men) provide more responsive support to (i.e., positive support during times when one's romantic partner needs it most; Neff & Karney, 2005) and exert more health-related

¹ Based on US population data, the current discussion assumes most participants were in different-gender relationships at the time of the survey (Williams Institute, 2020).

social control on (i.e., attempts to monitor and influences one's romantic partner's health behaviors; Lewis & Rook, 1999) their romantic partner (August & Sorkin, 2010; Umberson, 1992). In addition, married men rely on their romantic partner more than any other person in their social network for help with their health-related issues (August & Sorkin, 2010; Taylor, 2011; Umberson, 1992). Men (but not women) engage in more health-promoting behaviors and experience distinct health benefits from their romantic partner's health-related social influence (August & Sorkin, 2010; Westmaas et al., 2002). For examples, among people with chronic heart failure, male (but not female) patients' self-care maintenance was predicted by received social support (Mei et al. 2019), and men (but not women) living with HIV/AIDS experienced better psychological wellbeing from received emotional support (Gordillo et al., 2009). Taken together, findings from the current work suggest romantic partners of men living with CI adapted to the novel demands of shifting CI-management responsibilities from the PLCI-physician relationship to their PLCI-romantic relationship in a supportive, cooperative manner that benefited male participants' regulation of their CI self-management goals.

As BIPOC living with CI experienced more disruption to their routine care for CIs and the transactive system, they reported better CI self-management, whereas White people living with CI reported no relation between disruption to their routine care and CI self-management. One explanation for this pattern of associations may be that the negative effects of medical mistrust are ameliorated as the connections between the physician and the PLCI become weaker, especially among BIPOC living with CI. Medical mistrust is the absence of trust that healthcare providers and organizations genuinely care for patients' interests, are honest, are competent, and practice

confidentiality (Bogart et al., 2020; Williamson & Bigman, 2018). Medical mistrust stems from historical and contemporary, firsthand and vicarious experiences of mistreatment of marginalized groups of people by healthcare personnel and institutions (Williamson & Bigman, 2018). In the US, racial and ethnic disparities in healthcare exist even when accounting for income, insurance status, age, and severity of conditions (Nelson, 2002); thus, experiences of unequal medical services or medical mistreatment are probable among racial minorities. Therefore, though medical distrust toward the US healthcare system is likely high among PLCIs, there is reason to believe medical distrust is even higher among BIPOC living with CIs (Armstrong et al., 2006; National Council of La Raza, 2014). People who mistrust healthcare providers are likely to underutilize health services, such as blood pressure and cholesterol monitoring, cancer screening, routine check-up appointments, filling prescriptions, and following medical advice (Bynum et al., 2012; Hammond et al., 2010; LaVeist et al., 2009). PLCIs' medical mistrust is also associated with less treatment adherence and poorer physical health outcomes (Armstrong et al., 2006; Brown et al., 2016). For examples, medical mistrust among Black men living with HIV predicted lower electronically monitored antiretroviral medication use over six months (Dale et al., 2016), and medical mistrust among Black women living with hypertension predicted poorer antihypertensive medication adherence (Abel & Efird, 2013). As the COVID-19 pandemic and US mitigation measures disrupted routine care for CIs and caused the transactive links between the physician and the PLCI to become fewer and weaker, BIPOC living with CI may have benefited from less interactions with their healthcare providers to the extent they mistrust the healthcare system.

Another explanation of this pattern of associations could be that Black, Indigenous, and other People of Color may have higher resilience compared to White people during the COVID-19 pandemic in the US (Riehm et al., 2021). Despite the major disparities in COVID-19 treatment, rates of incidence, and mortality between BIPOC and White people in the US, Black Americans and Hispanic/Latinx Americans (but not Asian Americans²) report higher life satisfaction, mental wellbeing, optimism for the future, and less mental distress compared to White Americans during the COVID-19 pandemic (Graham et al., 2020; Riehm et al., 2021). Previous research posits that groups of people who have had to be resilient due to US societal inequities pre-pandemic have established structures that foster resilience, such as strong community ties and close relationship partners, to maintain psychological and physical health during the COVID-19 pandemic (Graham et al., 2020; McNeil Smith et al., 2019). For example, among Black couples in the US, receipt of racism-specific support was associated with better physical health for both men and women and better mental health for men (McNeil Smith et al., 2019). It could be the case that the current study's sample of BIPOC living with CI's romantic relationships represent a reliable social structure to which to turn when experiencing distress; indeed, BIPOC living with CI experienced increased received social support, partner goal responsiveness, couple's health communication efficacy, and strengthened

² There is a drastic rise in racial discrimination and hate crimes against Asian Americans due to the racialization of the COVID-19 pandemic in the US; based on historical precedent of racialized events in the US (e.g., Islamophobia and anti-Muslim rhetoric post 9/11 attacks), racial discrimination during the COVID-19 pandemic will likely exert deleterious effects on Asian Americans' short- and long-term health (Chen et al., 2020). Less than half of recently surveyed Asian Americans felt they were resilient (Ellin & Young, 2020), which may make buffering the negative effects of racial discrimination on health outcomes particularly difficult during the COVID-19 pandemic.

dyadic goal coordination as well as higher quality CI self-management as they experienced more disruption to routine care for CIs and the transactive system.

Limitations

The current study was cross-sectional, thus causality of the associations cannot be determined. Path analyses based on theoretical work were tested, but because the variables were measured at one point in time, any observed relations should be considered potentially bidirectional (Kenny, 2018). For example, it could be the case that instead of goal coordination predicting better CI self-management, when a person is experiencing good CI self-management, they may be better equipped to share in goal pursuits with their partner. Future research should measure degrees of experienced disruption to routine care and the transactive system, goal coordination, and CI self-management over time to bolster claims of directionality. A second limitation of the current study is the extent to which these findings are generalizable to the population of people living with chronic illness in the US. Though there was large variability in the distribution of participant ages ($M = 43.51$, $SD = 13.26$, Range = 20 - 81 years), a slight majority of participants identified their gender as female (about 58%), and the majority of respondents (almost 80%) identified their race/ethnicity as White. Therefore, careful consideration about the extent to whom these findings apply is warranted. Medical mistrust stemming from inequality-driven discrimination in healthcare systems, which disproportionately affects people of color living with chronic illness, may inhibit participation in academic research about health conditions (Barzagan et al., 2021; Scharff et al., 2010), and current mistrust in healthcare systems may be exacerbated by the way the US administration has handled the COVID-19 pandemic (Jaiswal et al., 2020).

Further, it is noted that all participants were recruited from and completed the study on the internet, indicating a familiarity with online platforms for participating in surveys in exchange for financial compensation. Participant sample data may have represented a different population if the data had been collected by recruiting participants from community areas; however, obtaining data from participants who live across the US versus one region is a strength of this study.

Conclusions and Future Directions

The current research provides a snapshot of the dynamic interpersonal processes comprising the self-regulation of CI management within the triadic transactive system of a PLCI, their romantic partner, and their physician (Fitzsimons et al., 2015). The external stressors of the COVID-19 pandemic and its mitigation measures were posited to change the structural relationships within the triadic transactive system such that as the transactive links between the PLCI and their physician were reduced in quantity and strength, these goals, pursuits, and outcomes likely transferred to the relationship between the PLCI and their romantic partner. Subsequently, the PLCI's and their romantic partner's relationship skills of social support, goal responsiveness, and health communication efficacy and the strength of their goal coordination predicted successful CI self-management.

The current study provides preliminary support for two components of Transactive Goal Dynamics theory when the opportunity for PLCIs to be interdependent with their physician was limited by external factors (Fitzsimons & Finkel, 2018; Fitzsimons et al., 2015): tenet 3, which proposes strong goal coordination affords transactive gain (i.e., better goal outcomes from pursuing goals as part of an

interdependent unit versus as an individual) among densely transactive systems, and tenet 4, which proposes relationship skills predict transactive gain by strengthening goal coordination. The current results suggest that disruption to routine care from the COVID-19 pandemic enhances CI self-management through strengthened goal coordination, and relationship skills as perceived by the PLCI predict better CI self-management. Results also indicate that thinking about the relationships between a PLCI, their romantic partner, and their physician as a triadic transactive system that holds a shared-target goal of effective, sustained CI self-management is a useful framework for understanding interpersonal influence on CI self-management (Fitzsimons & Finkel, 2018; Fitzsimons et al., 2015; Martire & Helgeson, 2017; vanDellen, 2019).

The current work recruited people who already had a diagnosis of a chronic physical illness. It would be interesting to capture the dynamic transactive system processes of adjustment to living with CI, perhaps around time of diagnosis, as the physician becomes a closer transactive system member. Transactive links likely fluctuate in quantity and strength depending on stage of illness (e.g., Maliski et al., 2002). The inclusion of a physician into the transactive system affords additional pooled resources from which the PLCI and their partner may draw (Fitzsimons et al., 2015), which may alleviate some strain among the PLCI and their partner if they are struggling to maintain effective CI self-management.

Although the current study focused on positive social skills' effect on CI self-management, romantic partners are in a unique position to undermine PLCIs' self-management efforts through adverse interpersonal influence, like temptation provision, pursuit of conflicting goals, disregard for the PLCI's self-management goal value or

commitment, or negative types of support or responsiveness (Fitzsimons et al., 2015; Henry et al., 2013; Wilson et al., 2017). In addition, due to the nature of such a densely transactive system, when either or both partners are experiencing everyday problems (e.g., finances, housing, employment, children, social conflicts), CI self-management likely suffers (van Houtum et al., 2015). Because the COVID-19 pandemic and mitigation measures may exacerbate these everyday problems for millions of Americans, including people living with CI, a logical next step for future research is to assess negative features of the triadic transactive system, which in combination with the current study's findings could provide a more comprehensive framework of transactive system influence on CI self-management during times of adversity.

REFERENCES

- Abel, W. M., & Efird, J. T. (2013). The association between trust in health care providers and medication adherence among Black women with hypertension. *Frontiers in Public Health*, 1(66), 1-6. <https://doi.org/10.3389/fpubh.2013.00066>
- Arden-Close, E., Moss-Morris, R., Dennison, L., Bayne, L., & Gidron, Y. (2010). The Couples' Illness Communication Scale (CICS): Development and evaluation of a brief measure assessing illness-related couple communication. *British Journal of Health Psychology*, 15(3), 543–559. <https://doi.org/10.1348/135910709X476972>
- Armstrong, K., Rose, A., Peters, N., Long, J. A., McMurphy, S. & Shea, J. A. (2006). Distrust of the health care system and self-reported health in the United States. *Journal of General Internal Medicine*, 21(4), 292-297. <https://doi.org/10.1111/j.1525-1497.2006.00396.x>
- August, K. J., & Sorkin, D. H. (2010). Marital status and gender differences in managing a chronic illness: The function of health-related social control. *Social Science & Medicine*, 71(10), 1831-1838. <https://doi.org/10.1016/j.socscimed.2010.08.022>
- Badr, H., & Acitelli, L. K. (2017). Re-thinking dyadic coping in the context of chronic illness. *Current Opinion in Psychology*, 13, 44–48. <https://doi.org/10.1016/j.copsyc.2016.03.001>
- Barlow, J., Wright, C., Sheasby, J., Turner, A., & Hainsworth, J. (2002). Self-management approaches for people with chronic conditions: A review. *Patient*

Education and Counseling, 48(2), 177-187. [https://doi.org/10.1016/s0738-3991\(02\)00032-0](https://doi.org/10.1016/s0738-3991(02)00032-0)

- Barzargan, M., Cobb, S., & Assari, S. (2021). Discrimination and medical mistrust in racially and ethnically diverse sample of California adults. *Annals of Family Medicine*, 19(1), 4 – 15. <https://doi.org/10.1370/afm.2632>
- Berg, C. A., & Upchurch, R. (2007). A developmental-contextual model of couples coping with chronic illness across the adult life span. *Psychological Bulletin*, 133(6), 920–954. <https://doi.org/10.1037/0033-2909.133.6.920>
- Blecker, S., Jones, S. A., Petrilli, C. M., Admon, A. J., Weerahandi, H., Francois, F., & Horwitz, L. I. (2021). Hospitalizations for chronic disease and acute conditions in the time of COVID-19. *JAMA Internal Medicine*, 181(2), 269-271. <https://doi.org/10.1001/jamainternmed.2020.3978>
- Bogart, L. M., Ojikutu, B. O., Tyagi, K., Klein, D. J., Mutchler, M. G., Dong, L., Lawrence, S. J., Thomas, D. R., & Kellman, S. (2021). COVID-19 related medical mistrust, health impacts, and potential vaccine hesitancy among Black Americans living with HIV. *Journal of Acquired Immune Deficiency Syndromes*, 86(2), 200–207. <https://doi.org/10.1097/QAI.0000000000002570>
- Brown, M. T., Bussell, J., Dutta, S., Davis, K., Strong, S., & Matthew, S. (2016). Medication adherence: Truth and consequences. *The American Journal of the Medical Sciences*, 51(4), 387-399. <https://doi.org/10.1016/j.amjms.2016.01.010>
- Bynum, S. A., Davis, J. L., Green, B. L., & Katz, R. V. (2012). Unwillingness to participate in colorectal cancer screening: Examining fears, attitudes, and medical mistrust in an ethnically diverse sample of adults 50 years and older. *American*

Journal of Health Promotion, 26(5), 295-300.

<https://doi.org/10.4278/ajhp.110113-QUAN-20>

Centers for Disease Control and Prevention (2019, October). *National Center for Chronic Disease Prevention and Health Promotion: About chronic diseases*.

<https://www.cdc.gov/chronicdisease/about/index.htm>

Centers for Disease Control and Prevention. (2020, May). *Coronavirus disease 2019 (COVID-19): People who need extra precautions*.

<https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/index.html>

Checton, M. G., & Greene, K. (2012). Beyond initial disclosure: The role of prognosis and symptom uncertainty in patterns of disclosure in relationships. *Health Communication*, 27(2), 145–157. <https://doi.org/10.1080/10410236.2011.571755>

Checton, M. G., Greene, K., Magsamen-Conrad, K., & Venetis, M. K. (2012). Patients' and partners' perspectives of chronic illness and its management. *Families, Systems, & Health*, 30(2), 114-129. <https://doi.org/10.1037/a0028598>

Chen, Z., Fan, V. S., Belza, B., Pike, K., & Nguyen, H. Q. (2017). Association between social support and self-care behaviors in adults with chronic obstructive pulmonary disease. *Annals of the American Thoracic Society*, 14(9), 1419–1427. <https://doi.org/10.1513/AnnalsATS.201701-026OC>

Chen, J. A., Zhang, E., & Liu, C. H. (2020). Potential impact of COVID-19-related racial discrimination on the health of Asian Americans. *American Journal of Public Health*, 110(11), 1624–1627. <https://doi.org/10.2105/AJPH.2020.305858>

Chin, W. W., Thatcher, J. B., Wright, R. T., & Steel, D. (2013). Controlling for common method variance in PLS analysis: The measured latent marker variable approach.

In H. Abdi, W. W. Chin, V. E. Vinzi, G. Russolino, & L. Trinchera (Eds.), *New Perspectives in Partial Least Squares and Related Methods* (pp. 231-239).

Springer. <https://doi.org/10.1007/978-1-4614-8283-3>

Chudasama, Y. V., Gillies, C. L., Zaccardi, F., Coles, B., Davies, M. J., Seidu, S., & Khunti, K. (2020). Impact of COVID-19 on routine care for chronic diseases: A global survey of views from healthcare professionals. *Diabetes & Metabolic Syndrome: Clinical Research & Review*, 14, 965-967.

<https://doi.org/10.1016/j.dsx.2020.06.042>

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349-354.

<https://doi.org/10.1037/h0047358>

Dale, S. K., Bogart, L. M., Wagner, G. J., Galvan, F. H., & Klein, D. J. (2016). Medical mistrust is related to lower longitudinal medication adherence among African-American males with HIV. *Journal of Health Psychology*, 21(7), 1311–1321.

<https://doi.org/10.1177/1359105314551950>

DiMatteo, M. R. (2004). Social support and patient adherence to medical treatment: A meta-analysis. *Health Psychology*, 23(2), 207–218. <https://doi.org/10.1037/0278-6133.23.2.207>

DiMillo, J., Hall, N. C., Ezer, H., Schwarzer, R., & Körner, A. (2019). The Berlin social support scales: Validation of the received support scale in a Canadian sample of patients affected by melanoma. *Journal of Health Psychology*, 24(13), 1785–1795. <https://doi.org/10.1177/1359105317700968>

- Ellin, A., & Young, A. (2020, December 17). *Special report: Why developing resilience may be the most important thing you can do for your well-being right now.* Everyday Health. <https://www.everydayhealth.com/wellness/state-of-resilience/>
- Eriksson, E., Wejåker, M., Danhard, A., Nilsson, A., & Kristofferzon, M. (2019). Living with a spouse with chronic illness – the challenge of balancing demands and resources. *BioMed Central Public Health*, 19(422).
<https://doi.org/10.1186/s12889-019-6800-7>
- Fekete, E., Geaghan, T. R., & Druley, J. A. (2009). Affective and behavioural reactions to positive and negative health-related social control in HIV+ men. *Psychology & Health*, 24(5), 501–515. <https://doi.org/10.1080/08870440801894674>
- Fitzsimons, G. M., & Finkel, E. J. (2018). Transactive-goal-dynamics theory: A discipline-wide perspective. *Current Directions in Psychological Science*, 27(5), 332-338. <https://doi.org/10.1177/0963721417754199>
- Fitzsimons, G. M., & Fishbach, A. (2010). Shifting closeness: Interpersonal effects of personal goal progress. *Journal of Personality and Social Psychology* 98(4). 535-549. <https://doi.org/10.1037/a0018581>.
- Fitzsimons, G. M., Finkel, E. J., & vanDellen, M. R. (2015). Transactive goal dynamics. *Psychological Review*, 122(4), 648-673. <https://doi.org/10.1037/a0039654>
- Fritz, M. S., & MacKinnon, D. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233-239. <https://doi.org/10.1111/j.1467-9280.2007.01882.x>

- Gallant, M. P. (2003). The influence of social support on chronic illness self-management: A review and directions for research. *Health Education & Behavior*, 30(2), 170-195. <https://doi.org/10.1177/1090198102251030>
- Giner-Sorolla, R. (2018, January 24). *Powering your interactions*. Approaching significance. <https://approachingblog.wordpress.com/2018/01/24/powering-your-interaction-2/>
- Gordillo, V., Fekete, E. M., Platteau, T., Antoni, M. H., Schneiderman, N., Nostlinger, C., & the Eurosupport Study Group. Emotional support and gender in people living with HIV: Effects on psychological well-being. *Journal of Behavioral Medicine*, 32(6), 523-531. <https://doi.org/10.1007/s10865-009-9222-7>
- Grady, P. A., & Gough, L. L. (2014). Self-management: A comprehensive approach to management of chronic conditions. *American Journal of Public Health*, 104(8), e25-e31. <https://doi.org/10.2105/AJPH.2014.302041>
- Graham, C., Chun, Y., Grinstein-Weiss, M., & Roll, S. (2020, June 24). *Well-being and mental health amid COVID-19: Difference in resilience across minorities and whites*. Brookings. <https://www.brookings.edu/research/well-being-and-mental-health-amid-covid-19-differences-in-resilience-across-minorities-and-whites/>
- Groessler, E. J., & Cronan, T. A. (2000). A cost-analysis of self-management programs for people with chronic illness. *American Journal of Community Psychology*, 28, 455-480. <https://doi.org/10.1023/A:1005184414241>
- Hammond, W. P., Matthew, D., Mohottige, D., Agyemang, A., & Corbie-Smith, G. (2010). Masculinity, medical mistrust, and preventive health services delays

- among community-dwelling African-American men. *Journal of General Internal Medicine*, 25(12), 1300-1308. <https://doi.org/10.1007/s11606-010-1481-z>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). The Guilford Press.
- Henry, S. L., Rook, K. S., Stephens, M., & Franks, M. (2013). Spousal undermining of older diabetic patients' disease management. *Journal of Health Psychology*, 18(12), 1550-1561. <https://doi.org/10.1177/1359105312465913>
- Huygens, M. W. J., Vermeulen, J., Swinkels, I. C. S., Friele, R. D., van Schayck, O. C. P., & de Witte, L. P. (2016). Expectations and needs of patients with a chronic disease toward self-management and eHealth for self-management purposes. *BioMed Central Health Services Research*, 16(232). <https://doi.org/10.1186/s12913-016-1484-5>
- Institute for Health and Metrics Evaluation. (2020, May 20). *COVID-19 projections*. <https://covid19.healthdata.org/united-states-of-america>
- Jaiswal, J., LoSchiavo, C., & Perlman, D. C. (2020). Disinformation, misinformation and inequality-driven mistrust in the time of COVID-19: Lessons unlearned from AIDS denialism. *AIDS and Behavior*, 24, 2776-2780. <https://doi.org/10.1007/s10461-020-02925-y>
- Jerant, A. F., von Friederichs-Fitzwater, M. M., & Moore, M. (2005). Patients' perceived barriers to active self-management of chronic conditions. *Patient Education and Counseling*, 57(3), 300–307. <https://doi.org/10.1016/j.pec.2004.08.004>
- Kalorama Information (2020, April). *COVID-19 impact on clinical labs tracker*. <https://kaloramainformation.com/covid-19-impact-on-clinical-labs-tracker/>

- Kappes, H. B., & Shrout, P. E. (2011). When goal sharing produces support that is not caring. *Personality and Social Psychology Bulletin*, 37(5), 662-673.
<https://doi.org/10.1177/0146167211399926>
- Kenny, D. A. (2018, September 25). Mediation. <http://davidakenny.net/cm/mediate.htm>
- LaVeist, T. A., Isaac, L. A., & Williams, K. P. (2009). Mistrust of health care organizations is associated with underutilization of health services. *Health Services Research*, 44(6), 2093–2105. <https://doi.org/10.1111/j.1475-6773.2009.01017.x>
- Leventhal, H., Halm, E., Horowitz, C., Leventhal, E. A., & Ozakinci, G. (2004). Living with chronic illness: A contextualized, self-regulation approach. In S. Sutton, A. Baum, & M. Johnston (Eds.), *The SAGE Handbook of Health Psychology* (pp. 197-240). SAGE Publications Ltd. <http://dx.doi.org/10.4135/9781848608153.n8>
- Lewis, M. A., & Rook, K. S. (1999). Social control in personal relationships: Impact on health behaviors and psychological distress. *Health Psychology*, 18(1), 63–71.
<https://doi.org/10.1037/0278-6133.18.1.63>
- Lorig, K. R., Ritter, P., Stewart, A. L, Sobel, D. S., Brown, B. W., Bandura, A., Gonzalez, V. M., & Holman, H. R. (2001). Chronic disease self-management program: 2-year health status and health care utilization outcomes. *Medical Care*, 39(11), 1217-1223. <https://doi.org/10.1097/00005650-200111000-00008>
- Luttik, M. L., Jaarsma, T., Moser, D., Sanderman, R., & van Veldhuisen, D. J. (2005). The importance and impact of social support on outcomes in patients with heart failure: An overview of the literature. *The Journal of Cardiovascular Nursing*, 20(3), 162–169. <https://doi.org/10.1097/00005082-200505000-00007>

- Magsamen-Conrad, K., Checton, M. G., Venetis, M. K., & Greene, K. (2015). Communication efficacy and couples' cancer management: Applying a dyadic appraisal model. *Communication Monographs*, 82(2), 179-200.
<https://doi.org/10.1080/03637751.2014.971415>
- Maisel, N. C., & Gable, S. L. (2009). The paradox of received social support: The importance of responsiveness. *Psychological Science*, 20(8), 928-932.
<https://doi.org/10.1111/j.1467-9280.2009.02388.x>
- Maliski, S. L., Heilemann, M. V., & McCorkle, R. (2002). From "death sentence" to "good cancer": Couples' transformation of prostate cancer diagnosis. *Nursing Research*, 51(6), 391-397.
- Manne, S., Ostroff, J., Rini, C., Fox, K., Goldstein, L., & Grana, G. (2004). The interpersonal process model of intimacy: The role of self-disclosure, partner disclosure, and partner responsiveness in interactions between breast cancer patients and their partners. *Journal of Family Psychology*, 18(4), 589-599.
<https://doi.org/10.1037/0893-3200.18.4.589>
- Martire, L. M., & Helgeson, V. S. (2017). Close relationships and the management of chronic illness: Associations and interventions. *American Psychologist*, 72(6), 601-612. <https://doi.org/10.1037/amp0000066>
- Martire, L. M., Schulz, R., Helgeson, V. S., Small, B. J., & Saghafi, E. M. (2010). Review and meta-analysis of couple-oriented interventions for chronic illness. *Annals of Behavioral Medicine*, 40(3), 325-342. <https://doi.org/10.1007/s12160-010-9216-2>

- Martire, L. M., Stephens, M. A., Mogle, J., Schulz, R., Brach, J., & Keefe, F. J. (2013). Daily spousal influence on physical activity in knee osteoarthritis. *Annals of Behavioral Medicine*, 45(2), 213–223. <https://doi.org/10.1007/s12160-012-9442-x>
- McNeil Smith, S., Williamson, L. D., Branch, H., & Fincham, F. D. (2020). Racial discrimination, racism-specific support, and self-reported health among African American couples. *Journal of Social and Personal Relationships*, 37(3), 779–799. <https://doi.org/10.1177/0265407519878519>
- Mei, J., Tian, Y., Chai, X., & Fan, X. (2019). Gender differences in self-care maintenance and its associations among patients with chronic heart failure. *International Journal of Nursing Sciences*, 6(1), 58-64. <https://doi.org/10.1016/j.ijnss.2018.11.008>
- Miller, W. R., Von Gaudecker, J., Tanner, A., & Buelow, J. M. (2020). Epilepsy self-management during a pandemic: Experiences of people with epilepsy. *Epilepsy & behavior*, 111(107238). <https://doi.org/10.1016/j.yebeh.2020.107238>
- Mirsky, J. B., & Horn, D. M. (2020). Chronic disease management in the COVID-19 era. *American Journal of Managed Care*, 26(8). <https://doi.org/10.37765/ajmc.2020.43838>
- Muthén, L. K., & Muthén, B. O. (1998-2017). *Mplus user's guide* (8th ed.). Muthén & Muthén.
- Neff, L. A., & Karney, B. R. (2005). Gender differences in social support: A question of skill or responsiveness? *Journal of Personality and Social Psychology*, 88(1), 79-90. <https://doi.org/10.1037/0022-3514.88.1.79>

- Nelson, A. (2002). Unequal treatment: Confronting racial and ethnic disparities in health care. *Journal of the National Medical Association*, 94(8), 666-668.
- Nisbet, E. K., & Zelenski, J. M. (2013). The NR-6: A new brief measure of nature relatedness. *Frontiers in Psychology*, 4(81).
<https://doi.org/10.3389/fpsyg.2013.00813>
- Nolte, S., Elsworth, G. R., & Osborne, R. H. (2013). Absence of social desirability bias in the evaluation of chronic disease self-management interventions. *Health and Quality of Life Outcomes*, 11(114). <https://doi.org/10.1186/1477-7525-11-114>
- Nouri, S., Khoong, E. C., Lyles, C. R., & Karliner, L. (2020). Addressing equity in telemedicine for chronic disease management during the Covid-19 pandemic. *NEJM Catalyst*. <https://doi.org/10.1056/CAT.20.0123>
- Orehek, E. (2017). Goal pursuit and close relationships: A people as means perspective. In C. E. Kopetz & A. Fishbach (Eds.), *The motivation-cognition interface: From the lab to the real world*. Routledge.
- Pinquart, M., & Duberstein, P. R. (2010). Associations of social networks with cancer mortality: A meta-analysis. *Critical Reviews in Oncology/Hematology*, 75(2), 122–137. <https://doi.org/10.1016/j.critrevonc.2009.06.003>
- Porter, L.S., Keefe, F.J., Baucom, D.H., Hurwitz, H., Moser, B., Patterson, E., & Kim, H.J. (2009). Partner-assisted emotional disclosure for patients with gastrointestinal cancer. *Cancer*, 115(S18), 4326-4338.
<https://doi.org/10.1002/cncr.24578>

- Porter, L.S., Keefe, F.J., Hurwitz, H., & Faber, M. (2005). Disclosure between patients with gastrointestinal cancer and their spouses. *Psycho-Oncology*, 14(12), 1030-1042. <https://doi.org/10.1002/pon.915>
- Portnoy, J., Waller, M., & Elliott, T. (2020). Telemedicine in the era of COVID-19. *The Journal of Allergy and Clinical Immunology: In Practice*, 8(5), 1489-1491. <https://doi.org/10.1016/j.jaip.2020.03.008>
- Rafaeli, E., & Gleason, M. E. J. (2009). Skilled support within intimate relationships. *Journal of Family Theory & Review*, 1(1), 20–37. <https://doi.org/10.1111/j.1756-2589.2009.00003.x>
- Reis, H. T. (2014). Responsiveness: Affective interdependence in close relationships. In M. Mikulincer & P. R. Shaver (Eds.), *The Herzliya series on Personality and Social Psychology: Mechanisms of Social Connection: From Brain to Group* (pp. 255–271). American Psychological Association. <https://doi.org/10.1037/14250-015>
- Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne social desirability scale. *Journal of Clinical Psychology*, 38(1), 119-125. [https://doi.org/10.1002/1097-4679\(198201\)38:1<119::AID-JCLP2270380118>3.0.CO;2-I](https://doi.org/10.1002/1097-4679(198201)38:1<119::AID-JCLP2270380118>3.0.CO;2-I)
- Riehm, K. E., Brenneke, S. G., Adams, L. B., Gilan, D., Lieb, K., Kunzler, A. M., Smail, E. J., Holingue, C., Stuart, E. A., Kalb, L. G., & Thrul, J. (2021). Association between psychological resilience and changes in mental distress during the COVID-19 pandemic. *Journal of Affective Disorders*, 282(1), 381-385. <https://doi.org/10.1016/j.jad.2020.12.071>

- Scharff, D. P., Mathews, K. J., Jackson, P., Hoffsuemmer, J., Martin, E., & Edwards, D. (2010). More than Tuskegee: understanding mistrust about research participation. *Journal of Health Care for the Poor and Underserved*, 21(3), 879–897. <https://doi.org/10.1353/hpu.0.0323>
- Schulman-Green, D., Jaser, S., Martin, F., Alonzo, A., Grey, M., McCorkle, R., Redeker, N. S., Reynolds, N., & Whittemore, R. (2012). Processes of self-management in chronic illness. *Journal of Nursing Scholarship*, 44(2), 136–144. <https://doi.org/10.1111/j.1547-5069.2012.01444.x>
- Schulman-Green, D., Jaser, S., Park, C., & Whittemore, R. (2016). A metasynthesis of factors affecting self-management of chronic illness. *Journal of Advanced Nursing*, 72(7), 1469–1489. <https://doi.org/10.1111/jan.12902>
- Schwarzer, R., & Schulz, U. (2000). *Berlin Social Support Scales (BSSS)*. <http://userpage.fu-berlin.de/~health/bsss.htm>
- Selcuk, E., & Ong, A. D. (2013). Perceived partner responsiveness moderates the association between received emotional support and all-cause mortality. *Health Psychology*, 32(2), 231–235. <https://doi.org/10.1037/a0028276>
- Selcuk, E., Stanton, S. C. E., Slatcher, R. B., & Ong, A. D. (2017). Perceived partner responsiveness predicts better sleep quality through lower anxiety. *Social Psychological and Personality Science*, 8(1), 83–92. <https://doi.org/10.1177/1948550616662128>
- Slatcher, R. B., & Selcuk, E. (2017). A social psychological perspective on the links between close relationships and health. *Current Directions in Psychological Science*, 26(1), 16–21. <https://doi.org/10.1177/0963721416667444>

- Smith, D., Harvey, P., Lawn, S., Harris, M., & Battersby, M. (2017). Measuring chronic condition self-management in an Australian community: Factor structure of the revised partners in health (PIH) scale. *Quality of Life Research*, 26(1), 149-159. <https://doi.org/10.1007/s11136-016-1368-5>
- Stephens, M. A., Franks, M. M., Rook, K. S., Iida, M., Hemphill, R. C., & Salem, J. K. (2013). Spouses' attempts to regulate day-to-day dietary adherence among patients with type 2 diabetes. *Health Psychology*, 32(10), 1029–1037. <https://doi.org/10.1037/a0030018>
- Sterba, K. R., DeVellis, R. F., Lewis, M. A., Baucom, D. H., Jordan, J. M., & DeVellis, B. (2007). Developing and testing a measure of dyadic efficacy for married women with rheumatoid arthritis and their spouses. *Arthritis and Rheumatism*, 57(2), 294–302. <https://doi.org/10.1002/art.22538>
- Strom, J. L., & Egede, L. E. (2012). The impact of social support on outcomes in adult patients with type 2 diabetes: A systematic review. *Current Diabetes Reports*, 12(6), 769–781. <https://doi.org/10.1007/s11892-012-0317-0>
- Sweeny, K., Melnyk, D., Miller, W., & Shepperd, J. A. (2010). Information avoidance: Who, what, when, and why. *Review of General Psychology*, 14(4), 340-353. <https://doi.org/10.1037/a0021288>
- Taylor, S. E. (2011). Social support: A review. In H. S. Friedman (Ed.), *The Oxford handbook of health psychology* (pp. 192-217). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780195342819.013.0009>
- Taylor, S. E., Cousino Klein, L., Lewis, B. P., Gruenewald, T. L., Gurung, R. A. R., & Updegraff, J. A. (2000). Biobehavioral responses to stress in females: Tend-and-

befriend, not fight-or-flight. *Psychological Review*, 107(3), 411-429.

[https://doi.org/ 10.1037//0033-295X.107.3.411](https://doi.org/10.1037//0033-295X.107.3.411)

Tehseen, S., Ramayah, T., & Sajilan, S. (2017). Testing and controlling for common method variance: A review of available methods. *Journal of Management Sciences*, 4(2), 142-168. <https://doi.org/10.20547/jms.2014.1704202>

The National Council of La Raza (2014). *An inside look at chronic disease and health care among Hispanics in the United States*. The National Council of La Raza.

Tomova, L., von Dawans, B., Heinrichs, M., Silani, G., & Lamm, C. (2014). Is stress affecting our ability to tune into others ? Evidence for gender differences in the effects of stress on self-other distinction. *Psychoneuroendocrinology*, 43, 95-104. [https://doi.org/ 10.1016/j.psyneuen.2014.02.006](https://doi.org/10.1016/j.psyneuen.2014.02.006)

Umberson, D. (1992). Gender, marital status and the social control of health behavior. *Social Science & Medicine*, 34(8), 907–917. [https://doi.org/10.1016/0277-9536\(92\)90259-S](https://doi.org/10.1016/0277-9536(92)90259-S)

Van de Velde, D., Zutter, F. D., Satink, T., Costa, U., Janquart, S., Senn, D., & De Vriendt, P. D. (2019). Delineating the concept of self-management of chronic conditions: A concept analysis. *BMJ Open*, 9(7). <https://doi.org/10.1136/bmjopen-2018-027775>

van Houtum, L., Rijken, M., & Groenewegen, P. (2015). Do everyday problems of people with chronic illness interfere with their disease management? *BMC Public Health*, 15(1000). <https://doi.org/10.1186/s12889-015-2303-3>

vanDellen, M. R. (2019). Health behavior change in transactive systems. *Social and Personality Psychology Compass*, 13(11). <https://doi.org/10.1111/spc3.12505>

Wadden, T. A. (1983). Predicting treatment response to relaxation therapy for essential hypertension. *Journal of Nervous and Mental Disease*, 171(11), 683–689.

<https://doi.org/10.1097/00005053-198311000-00007>

Westmaas, J. L., Wild, T. C., & Ferrence, R. (2002). Effects of gender in social control of smoking cessation. *Health Psychology*, 21(4), 368-376.

<https://doi.org/10.1037//0278-6133.21.4.368>

Williams Institute (2020, July). *Adult LGBT population in the United States*. UCLA School of Law Williams Institute.

<https://williamsinstitute.law.ucla.edu/publications/adult-lgbt-pop-us/>

Williamson, L. D., & Bigman, C. A. (2018). A systematic review of medical mistrust measures. *Patient Education and Counseling*, 101(10), 1786–1794.

<https://doi.org/10.1016/j.pec.2018.05.007>

Wilson, S. J., Martire, L. M., & Sliwinski, M. J. (2017). Daily spousal responsiveness predicts longer-term trajectories of patients' physical function. *Psychological Science*, 28(6), 786-797.

<https://doi.org/10.1177/0956797617697444>

APPENDIX A

MEASURE OF DISRUPTION TO TRIADIC TRANSACTIVE SYSTEM AND
ROUTINE CARE

1. “Overall, to what degree has COVID-19 affected your routine healthcare appointments for managing your chronic illness?” Responses are reported on a 1 (*appointments are not at all affected by COVID-19*) to 5 (*appointments are very much affected by COVID-19*) scale
2. “To what degree has COVID-19 affected the frequency of your routine healthcare appointments for managing your chronic illness?” Responses are reported on a 1 (*appointments are less frequent now than before COVID-19*) to 5 (*appointments are more frequent now than before COVID-19*) scale
3. “To what degree has COVID-19 affected the average length of your healthcare appointments (i.e., the amount of time you interact with your physician) for managing your chronic illness?” Responses are reported on a 1 (*appointments are much shorter now than before COVID-19*) to 5 (*appointments are much longer now than before COVID-19*)
4. “To what degree has COVID-19 affected the quality of your healthcare appointments for managing your chronic illness?” Responses are reported on a 1 (*appointments are much lower quality now than before COVID-19*) to 5 (*appointments are much higher quality now than before COVID-19*).

APPENDIX B

CHRONIC ILLNESS SELF-MANAGEMENT

The Revised Partners in Health Scale (Smith et al., 2017)

Responses scored on a 0 (*very good*) to 8 (*very poor*) or 0 (*always*) to 8 (*never*) scale

1. Overall, what I know about my health condition(s) is
2. Overall, what I know about my treatment, including medications for my health condition(s) is
3. I take medications or carry out the treatment asked by my doctor or health worker
4. I share in decisions made about my health condition(s) with my doctor or health worker
5. I am able to deal with health professionals to get the services I need that fit with my culture, values and beliefs
6. I attend appointments as asked by my doctor or health worker
7. I keep track of my symptoms and early warning signs (e.g. blood sugar levels, peak flow, weight, shortness of breath, pain, sleep problems, mood)
8. I take action when my early warning signs and symptoms get worse
9. I manage the effect of my health condition(s) on my physical activity (i.e. walking, household tasks)
10. I manage the effect of my health condition(s) on how I feel (i.e. my emotions and spiritual well-being)
11. I manage the effect of my health condition(s) on my social life (i.e. how I mix with other people)
12. Overall, I manage to live a healthy life (e.g. no smoking, moderate alcohol, healthy food, regular physical activity, manage stress)

APPENDIX C

SOCIAL SUPPORT

Berlin Social Support Scales – Received Support (Schwarzer & Schulz, 2000)

Think about your romantic partner. How did your partner react to you during the last week? 1 (*strongly disagree*) to 4 (*strongly agree*)

1. My partner showed me that they love and accept me.
2. My partner was there when I needed them.
3. My partner comforted me when I was feeling bad.
4. My partner left me alone.
5. My partner did not show much empathy for my situation.
6. My partner complained about me.
7. My partner took care of many things for me.
8. My partner made me feel valued and important.
9. My partner expressed concern about my condition.
10. My partner assured me that I can rely completely on them.
11. My partner helped me find something positive in my situation.
12. My partner suggested activities that might distract me.
13. My partner encouraged me not to give up.
14. My partner took care of things I could not manage on my own.

APPENDIX D

PARTNER GOAL RESPONSIVENESS

As you think about your romantic partner, please indicate your agreement with each of the following items: 1 (*strongly disagree*) to 5 (*strongly agree*)

1. My partner knows the goals I have with regard to managing my chronic illness.
2. My partner understands how I feel (e.g., confident, hesitant) about pursuing the goals that help manage my chronic illness.
3. My partner knows the amount of resources (e.g., time, energy) I have to put toward pursuing the goals that help manage my chronic illness.
4. My partner knows when I feel like I can't make progress toward the goals that help manage my chronic illness.
5. My partner behaves in a way that is consistent with my goals that help manage my chronic illness.
6. My partner behaves in a way that is in line with my needs that I have when pursuing the goals that help manage my chronic illness.
7. My partner behaves in a way that takes my preferences and skills into consideration when making progress toward goals that help manage my chronic illness.

APPENDIX E

HEALTH COMMUNICATION EFFICACY

Couples' Illness Communications Scale (Arden-Close et al., 2010)

The following questions ask about your relationship with your partner. Each question should be answered on the scale shown below. 1 (*disagree strongly*) to 5 (*agree strongly*)

1. It is hard for me to express feelings about my illness to my partner.
2. I feel comfortable discussing issues related to my illness with my partner.
3. My partner is reluctant to talk about my illness.
4. My partner is willing to share his/her feelings about my illness with me.

APPENDIX F

GOAL COORDINATION

Please rate your agreement with the following items. 1 (*strongly disagree*) to 5 (*strongly agree*)

1. My partner and I divide tasks related to my [their] chronic illness (e.g., prepare food, pick up medications from the pharmacy, research illness-specific information) based on each other's strengths.
2. My partner and I act in ways that will both help manage my [their] chronic illness and also help them [me] achieve their [my] goals, too.
3. My partner [I] behaves in ways that conflict with my [my partner's] management of my [their] chronic illness.

APPENDIX G

SOCIAL DESIRABILITY BIAS SCALE

Social Desirability Scale (Reynolds, 1982)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is True or False as it pertains to you personally.

1. It is sometimes hard for me to go on with my work if I am not encouraged.
2. I sometimes feel resentful when I don't get my way.
3. On a few occasions, I have given up doing something because I thought too little of my ability.
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.
5. No matter who I'm talking to, I'm always a good listener.
6. There have been occasions when I took advantage of someone.
7. I'm always willing to admit it when I make a mistake.
8. I sometimes try to get even rather than forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.
12. I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone's feelings.

APPENDIX H

COMMON METHOD MARKER VARIABLE SCALE

Nature Relatedness Scale (Nisbet & Zelenski, 2013)

For each of the following, please rate the extent to which you agree with each statement, using the scale from 1 to 5 as shown below. Please respond as you really feel, rather than how you think “most people” feel. 1 (*Disagree strongly*), 2 (*Disagree a little*), 3 (*Neither agree or disagree*), 4 (*Agree a little*), 5 (*Agree strongly*)

1. My ideal vacation spot would be a remote, wilderness area.
2. I always think about how my actions affect the environment.
3. My connection to nature and the environment is a part of my spirituality.
4. I take notice of wildlife wherever I am.
5. My relationship to nature is an important part of who I am.
6. I feel very connected to all living things and the earth.

APPENDIX I

DEMOGRAPHIC INFORMATION

1. What is your age? (*open-ended response*)
2. What is your gender? (*open-ended response*)
3. What is your race(s)/ethnicity(ies)? (*open-ended response*)
4. In which general category(ies) does your chronic physical illness belong? You may select more than one option:
 - Arthritis or Bone/Joint Disease
 - Autoimmune Disorder (e.g., Lupus, Chronic Thyroid Disorder)
 - Cardiovascular Disease (e.g., Heart Disease, Stroke)
 - Cancers
 - Chronic Kidney Disease
 - Chronic Respiratory Disease (e.g., Chronic Obstructed Pulmonary Disease [COPD], Asthma)
 - Diabetes
 - Neurological and/or Nervous System (e.g., Epilepsy, Multiple Sclerosis)
 - Gastrointestinal (e.g., Inflammatory Bowel Disease [IBD], Gastroesophageal Reflux Disease [GERD], Irritable Bowel Syndrome [IBS])
 - Other/Not Listed/Prefer to List Myself (*open response*)
 - Prefer Not to Answer