

**SEXUAL GROWTH AND DESTINY BELIEFS: ASSOCIATIONS WITH DYADIC COPING  
AMONG COUPLES SEEKING MEDICALLY ASSISTED REPRODUCTION**

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## Abstract

**Background:** Medically assisted reproduction is a vulnerable time for couples' sexual health. Believing that sexual challenges can be worked through (i.e., sexual growth beliefs) or that these challenges indicate incompatibility (i.e., sexual destiny beliefs) may relate to dyadic coping – the strategies couples use to cope – with the physical and psychological stressors of medically assisted reproduction. **Aim:** The current study aimed to examine the longitudinal associations between typical (i.e., average) levels of sexual growth and destiny beliefs and positive and negative facets of dyadic coping, and how greater than typical levels of these constructs predicted each other across time. **Methods:** Couples ( $N = 219$ ) seeking medically assisted reproduction were recruited for an online longitudinal, dyadic study. **Outcomes:** Couples completed online measures of sexual growth and destiny beliefs and positive and negative dyadic coping at baseline, 6- and 12-months. **Results:** Random intercept cross-lagged panel models demonstrated that at the within-person level, reporting higher sexual growth beliefs at baseline, relative to their average across time-points, was associated with lower negative dyadic coping at 6-months. Higher negative dyadic coping at 6-months, relative to their average, was linked to lower sexual growth beliefs at 12-months. When individuals reported higher sexual destiny beliefs at 6-months, relative to their average, they and their partners reported higher negative dyadic coping at 12-months. At the between-person level, higher overall levels of sexual destiny beliefs were related to higher overall levels of negative dyadic coping. No associations with positive dyadic coping were identified. **Clinical Implications:** Couples may benefit from identifying and reducing unhelpful beliefs about sex and negative dyadic coping. **Strengths and Limitations:** Strengths of this study include our large, inclusive sample, engagement of community partners, and novel analytical approach to assess change over time. However, following couples in 6-month increments and not using questionnaires specific to medically assisted reproduction may have limited our ability to detect nuanced changes that couples experience during this time. **Conclusion:** Lower sexual growth and higher

sexual destiny beliefs may promote couples' engagement in less adaptive coping behaviors as they seek medically assisted reproduction.

**Keywords:** Medically assisted reproduction, Implicit sexual beliefs, Dyadic coping, Longitudinal, Couples

For many couples, medically assisted reproduction (MAR; i.e., medical procedures that facilitate a pregnancy) is a necessary step in their journey of starting or growing their family<sup>1</sup>. Individuals who require MAR face challenges to various facets of their health<sup>2,3</sup>, including to their sexual health<sup>4-7</sup>. Indeed, 43-90% of cisgender women and 48-58% of cisgender men report sexual dysfunction while undergoing or seeking MAR<sup>8</sup>. Mixed gender/sex couples experience pressures to perform during peak ovulatory periods and sex becomes motivated primarily by the need for procreation, which is associated with reduced enjoyment of sex and poorer sexual functioning e.g.,<sup>4,5,7</sup>. Same-gender/sex couples also report increased stress related to MAR that interferes with their sexual functioning<sup>6</sup>.

The use of *dyadic coping*—how partners manage stressors and solve problems together—may be a key tool in mitigating declines in health and well-being. Despite research highlighting the association between dyadic coping and relationship well-being among couples requiring MAR<sup>9,10</sup>, no studies to our knowledge have examined sexual predictors of dyadic coping as couples seek MAR. In line with the Vulnerability Stress Adaptation Model<sup>11</sup>, and its recent adaptations<sup>12,13</sup> underlying beliefs about how to manage common and novel sexual concerns may have implications for the kinds of coping behaviors couples implement. MAR is a long-term process that involves both members of a couple. Yet, prior research has rarely used longitudinal or dyadic designs that account for the fluctuations and interpersonal nature of couples' beliefs and coping behaviors over time. As such, the current study examined the associations between couples' sexual growth (i.e., sexual challenges can be worked through) and destiny beliefs (i.e., sexual challenges are reflective of incompatibility) and dyadic coping across a one-year period of seeking MAR.

### **Medically Assisted Reproduction and Dyadic Coping**

MAR is a demanding medical process affecting both members of a couple and involves conjoint coping efforts. Yet, research related to coping behaviors of those requiring MAR has focused on those implemented by individuals independently (e.g.,<sup>14</sup>). Dyadic coping may better

capture the interdependence between partners' stress and each member's perceptions of their own and their partner's coping<sup>15</sup>. Dyadic coping is a multidimensional process that involves (1) positive dyadic coping (e.g., validation, joint stress management, practical support), and 2) negative dyadic coping (e.g., disinterest, distancing). Mainly cross-sectional studies have shown that engagement in more positive and less negative dyadic coping during acute and chronic life stressors is associated with couples' greater psychological, relationship, and sexual well-being (e.g.,<sup>16, 17</sup>). Several studies have examined couples' coping behaviors during MAR (e.g.,<sup>14, 18</sup>), but only two cross-sectional studies have used the dyadic coping questionnaire<sup>9, 10</sup>, which simultaneously assesses an individual's perception of their own and their partner's dyadic coping<sup>19</sup>. These studies found that couples who report more positive and less negative dyadic coping, generally reported greater relationship quality and lower infertility-related stress<sup>9, 10</sup>. Psychosocial factors are amenable to change<sup>20</sup> and are primary reasons for distress during MAR<sup>21</sup>. Identifying psychosocial predictors of dyadic coping may inform interventions to promote couples' adjustment.

### **Sexual Growth and Destiny Beliefs**

The Vulnerability Stress-Adaptation model (VSA) is an empirically supported framework that posits associations among pre-existing enduring traits (e.g., cognitions), behaviors, and relationship quality<sup>11-13</sup>. These vulnerabilities are thought to influence the extent to which individuals employ more or less adaptive coping for managing stressors, such as MAR. Given the interdependence between romantic partners, an individual's own vulnerabilities may also prompt their partner's coping behaviors. A vulnerability that may relate to couples' dyadic coping are their sexual growth and destiny beliefs. Sexual growth beliefs reflect the belief that one's sex life can be maintained or improved with effort and sexual destiny beliefs refer to the belief that sexual difficulties are indicative of whether couples are "meant to be" and that there should be natural compatibility between partners (e.g., a soulmate;<sup>22</sup>). Cross-sectional and longitudinal studies with couples navigating stressors to their sex lives, have found that those who endorse

greater sexual growth and lower sexual destiny beliefs generally report higher relationship and sexual well-being relative to those who endorse lower sexual growth and greater sexual destiny beliefs <sup>22-24</sup>.

Evidence from the broader literature underscores the importance of these beliefs for coping in stressful contexts. In two studies, couples were asked to describe their experience of infertility, with many couples endorsing growth- and destiny-oriented thoughts such as “I’ll do whatever it takes to fix it” and “a pregnancy was not meant to be” <sup>25, 26</sup>. Individuals who believe that sexual challenges can be worked through (i.e., sexual growth beliefs) may engage in more positive and less negative dyadic coping. In contrast, believing that sexual challenges are indicative of incompatibility (i.e., sexual destiny beliefs) may limit the effort extended by couples to engage in positive dyadic coping and prompt their use of more negative dyadic coping. Indeed, among community samples of individuals navigating real or hypothetical relationship stressors, greater growth-oriented beliefs were related to more positive coping (e.g., planning, support seeking), whereas greater destiny-oriented beliefs have been linked to more negative coping (e.g., disengagement, denial; <sup>27, 28</sup>). Only two experimental studies have examined the association between sexual beliefs (e.g., growth and destiny beliefs about sexual attraction and desire; <sup>29, 30</sup>) and individual coping behaviors. In both studies, those who were primed with destiny beliefs or who endorsed greater destiny beliefs in the context of a hypothetical sexual stressor, reported significantly greater negative coping behaviors than those primed with or endorsing growth beliefs. Whether these associations extend to dyadic coping remains unknown and it is possible that a hypothetical sexual challenge may not generalize or promote the same magnitude of effects as couples navigating an actual and ongoing sexual stressor.

The burdens of MAR are likely to fluctuate over time within couples depending on their unique circumstances, potentially prompting changes in couples’ beliefs for how to manage sexual challenges and their coping behaviors. Indeed, there is evidence of change in both growth and destiny beliefs and dyadic coping over time <sup>31, 32</sup>. Altogether, examining whether

changes in sexual growth and destiny beliefs correspond with changes in dyadic coping over time is crucial for understanding how we can promote effective dyadic coping during a period of vulnerability for couples' well-being.

## **Aims**

The present dyadic and longitudinal study aimed to answer the following research question: are there between-and within-person associations among sexual growth and destiny beliefs and positive and negative facets of dyadic coping among couples seeking MAR over 12-months? Specifically, we tested whether 1) higher overall (or lower overall) sexual growth and destiny beliefs—across the 12-month period—were related to higher overall (or lower overall) negative or positive dyadic coping among individuals and members of a couple across time-points (i.e., between-person), and 2) whether deviations from one's own average sexual growth and destiny beliefs at one time-point predicted an increase (or decrease) from their own or their partner's negative and positive dyadic coping at a later time-point (i.e., within-person). At the between-person level, we hypothesized that, overall (averaged across all time-points), individuals who endorsed (a) higher levels of sexual growth beliefs and (b) lower levels of sexual destiny beliefs, would report higher overall positive and lower negative dyadic coping. At the within-person level, we hypothesized that individuals who endorsed (a) higher than average sexual growth beliefs and (b) lower than average sexual destiny beliefs at one time-point relative to their 12-month average would report increases in positive and decreases in negative dyadic coping at the next time-point relative to their 12-month average. These hypotheses are based on prior theory and research<sup>11, 22, 29, 30</sup>, however, our analyses tested both directions of the associations in order to assess directionality. Due to conflicting evidence for how an individual's sexual beliefs are linked to their partner's outcomes<sup>22-24</sup>, we examined partner effects in an exploratory manner. Including both partners allowed us to account for the interdependence within- and between-couples, which is important given that partners are seeking MAR together.

## Methods

### Participants

Couples requiring MAR were recruited as part of a larger longitudinal study examining factors related to treatment burden and well-being. There is one published study and another under review using a subset of the sample from the present study [Masked for Review]. These studies focused on dyadic coping, relationship, and medical factors as predictors of sexual well-being for couples seeking MAR who have a medical diagnosis of infertility and included baseline data only. Neither study used sexual growth and destiny beliefs or examined predictors of dyadic coping. To participate, couples must have had their first visit to an assisted reproductive therapies (ART) clinic within the last 6-months and be seeking MAR. If they had accessed a clinic in the past, then it must have been at least one year since their last appointment. A one-year gap between a couple's last and most recent appointment sought to ensure that couples entering the study were not in the middle of an ongoing treatment phase and to specifically recruit couples who were either just starting or restarting their treatment process after a significant break. Both members of the couple were also required to be: 1) 18 years of age or older, 2) fluent in English or French, and 3) living in North America. Couples were excluded if one or both members self-reported experiencing unmanaged symptoms of a severe mental health diagnosis (e.g., psychosis). With research demonstrating that sex and gender diverse couples experience similar challenges to their well-being during MAR <sup>6</sup>, we aimed to be inclusive of all couples who require ART. The present sample consisted of 219 couples who were primarily (i.e., 99%) married, common-law, or engaged. The flow of recruitment can be found in Supplemental Material (Figure 1) on the Open Science Framework (OSF): [https://osf.io/umwtf/?view\\_only=3a0c361cc07e430c99d6105b5764bb1d](https://osf.io/umwtf/?view_only=3a0c361cc07e430c99d6105b5764bb1d). Table 1 presents sociodemographic and treatment information for the sample.

### Measures

Participants' sociodemographic (e.g., age, gender, education) and medical (e.g.,

infertility diagnosis, treatment status) information was collected in an investigator-made survey.

### ***Sexual Growth and Destiny Beliefs***

Sexual growth and destiny beliefs were assessed using the 10-item Implicit Theories of Sexuality Scale - Short Form<sup>22</sup>. Five items assess sexual destiny beliefs, such as “struggles in a sexual relationship are a sure sign that the relationship will fail” and “if sexual partners are meant to be together, sex will be easy and wonderful”, as well as five items that assess sexual growth beliefs, including “successful sexual relationships require regular maintenance” and “sexual desire is likely to ebb and flow (i.e., change) over the course of a relationship”. All items are rated on a 7-point scale ranging from (1) “strongly disagree” to (7) “strongly agree”. Items from each subscale were averaged, with higher scores reflecting greater endorsement of each belief. The sexual growth ( $\alpha = .73-.83$ ) and sexual destiny ( $\alpha = .82-.86$ ) subscales demonstrated strong internal consistency at all time-points, similar to other samples of couples navigating stressors to their sex lives<sup>23, 24</sup>.

### ***Dyadic Coping***

We administered the Dyadic Coping Inventory DCI;<sup>19</sup> to assess couples’ dyadic coping with stressors over the last month. With the relative importance of partner perceptions<sup>33, 34</sup>, to adhere with the validated DCI scoring instructions, and to fully encompass the complex layers of dyadic interactions, we combined the subscales that capture an individual’s perceptions of their own and their partner’s negative and positive dyadic coping. The negative dyadic coping subscale was comprised of eight items that ascertain less adaptive coping strategies (e.g., “When I/my partner was stressed, I/they tended to withdraw” and “I blame my partner/My partner blames me for not coping well enough with stress). The positive dyadic coping subscale was comprised of 19 items assessing the forms of dyadic coping that are considered adaptive, including delegated (e.g., “I/My partner took on things that I/my partner would normally do in order to help me/them out” and “When I have/When my partner has too much to do, I/my partner helps me out), common (e.g., “We tried to cope with the problem together and searched

for solutions” and “I/my partner help them/me to see stressful situations in a different light), and supportive (e.g., “I/My partner showed empathy and understanding to me/my partner” and I/my partner express that I am/they are on their/my side). All items are rated on a 5-point scale ranging from (1) “very rarely” to (5) “very often.” Items were summed to create a subscale score. Higher scores indicate higher negative and positive dyadic coping. This measure has been used in samples of couples navigating infertility or medically assisted reproduction<sup>9, 10</sup>. In the current study, the internal consistency of the negative ( $\alpha = .78-.85$ ) and positive ( $\alpha = .90-.91$ ) dyadic coping scales demonstrated strong reliability across time.

### **Procedure**

Prior to participant recruitment, the research teams connected with four couples with lived experience of MAR to review all the study materials (e.g., recruitment advertisements, measures) and provide feedback. The community partners were compensated for their contributions and their feedback was integrated via revisions to our measures, advertisements, and medical questionnaire to capture the intricacies of MAR. Couples were recruited between November 2019 and November 2020 by two research teams at the [Masked for Review] and [Masked for Review] in-person at an ART clinic in [Masked for Review], and through online and community advertisements posted on websites across North America (e.g., Facebook), in local community centers and stores, ART clinics, and other health offices. For in-person recruitment at the ART clinic, research staff reviewed medical records and identified potentially eligible participants prior to their initial appointment. Once identified, staff informed potential participants about the study upon check-in for their appointment. Due to the COVID-19 pandemic, in-person recruitment was suspended in March 2020. Recruitment through the ART clinic continued via virtual appointments whereby clinic staff informed potential participants about the study and obtained consent for the research team to contact them via email. For both recruitment methods, a research assistant conducted an eligibility screening interview in person or via telephone with both members of the couple and enrolled eligible couples. Participants

independently completed online surveys, sent via email and hosted on Qualtrics at baseline, 6-, and 12-month follow-ups. The 6-month timeframe was utilized to best capture the length of MAR treatment intervals and to reduce participant burden during what is already a burdensome treatment process. Participant retention strategies, including emails, phone calls, and infographics were used to promote participation. Couples received up to \$144 CDN (\$57 each) in their choice of an online gift card. All procedures were approved by each participating university's Research Ethics Boards.

### **Data Analysis**

Descriptive statistics were computed using SPSS Version 27 and all other analyses were conducted with MPlus Version 8.6. All study data and syntax can be found at [https://osf.io/umwtf/?view\\_only=3a0c361cc07e430c99d6105b5764bb1d](https://osf.io/umwtf/?view_only=3a0c361cc07e430c99d6105b5764bb1d). Little's MCAR test indicated that the data missing at baseline were not missing at random ( $\chi^2(665) = 808.46, p = .00$ ), whereas the data at 6- months ( $\chi^2(552) = 601.72, p = .07$ ) and 12-months ( $\chi^2(333) = 173.84, p = 1.00$ ) were missing at random. Given the minimal missing data at baseline (i.e., less than 9% across measures), single imputation approaches for addressing missing data are still appropriate<sup>35</sup>. We proceeded with two techniques to address these minimal data missing across time-points. For participants with less than 50% of items missing for each measure, the mean of their responded items was imputed manually<sup>35</sup>. This process was completed prior to calculating total scores. For longitudinal data where one or both members of a couple did not complete the survey (for reasons other than their relationship ending), the full information maximum likelihood estimator was used and relevant auxiliary variables (e.g., demographic information) were included to accurately estimate missing data in line with current recommendations see<sup>36</sup>. Couples whose relationship ended during the study period were withdrawn from the study and excluded from analyses.

To examine within- and between-person longitudinal associations between each sexual

belief and positive and negative dyadic coping, we tested a dyadic random intercept cross-lagged panel model (RI-CLPM) following specifications outlined by Mulder and Hamaker (37). We used random intercept cross-lagged panel models (RI-CLPM) within a structural equation framework to test associations at the between-person (i.e., averaged across time points/variability between-couples) and within-person (i.e., co-occurring changes over time/variability within-couples) levels. This statistical approach extends the traditional cross-lagged panel models (CLPM) by disaggregating the within- and between-person variance, allowing us to better capture the temporal link between sexual growth and destiny beliefs and dyadic coping. Analyses were guided by the Actor-Partner Interdependence Model (APIM) to account for the non-independence of the dyadic data <sup>38</sup>. Using the APIM allowed us to examine how an individual's sexual growth or destiny beliefs were linked to their own (i.e., actor effects) and their partners' (i.e., partner effects) perceptions of positive or negative dyadic coping. The RI-CLPM allowed us to test whether 1) higher overall (or lower overall) sexual growth and destiny beliefs—across the 12-month period—were related to higher overall (or lower overall) negative or positive dyadic coping among individuals and members of a couple across time-points (i.e., between-person), and 2) deviations from one's own average sexual growth and destiny beliefs at one time-point predicted an increase (or decrease) from their own or their partner's negative and positive dyadic coping at a later time-point (i.e., within-person).

The within-person effects in the RI-CLPM include cross-lagged and autoregressive paths as well as concurrent associations. Cross-lagged parameters reflect the extent to which increases or decreases in one's score is explained by deviations from their own or their partner's average score of another construct from the previous time point. For example, do increases in an individual's or partner's sexual growth beliefs at 6-months (relative to their 12-month average) relate to increases in their own or their partner's positive dyadic coping (relative to their 12-month average) at 12-months? The autoregressive parameters examine the extent to which within-person increases or decreases can be explained by deviations in one's own

expected score from their own or their partner's score at a previous assessment point for the same construct. In other words, do decreases in an individual's or partner's sexual destiny beliefs at baseline (relative to their 12-month average) relate to decreases in their own or their partner's negative dyadic coping (relative to their 12-month average) at 6-months? In both cross-lagged and autoregressive parameters, the model controls for all previous deviations from within-person scores. Concurrent within-person associations—covariances and residual covariances—capture actor and partner associations among the study variables at a single time- point. Unlike a traditional CLPM, autoregressive and concurrent within-person associations are not usually large or statistically significant. These associations were also not germane to our hypotheses. Sexual growth and destiny beliefs and positive and negative dyadic coping were tested in separate models (i.e., a total of 4 models) due to model complexity and to increase statistical power.

Our sample is comprised of same-and mixed-gender/sex couples at varying stages of MAR, some of which involved both members of the couple receiving MAR-related procedures at the same or different time-points. As there were no variables that consistently distinguished members within a couple across all dyads and time-points<sup>1</sup>, dyads were treated as indistinguishable and random role assignment was used within each dyad <sup>38-40</sup>. For the RI-CLPM, model paths were constrained to be equal for both members of the dyad, thus allowing each participant to contribute data as both an “actor” and a “partner” and maximizing use of the full sample <sup>41</sup>. Supplemental Figure 2 depicts a graphical representation of our dyadic RI-CLPM. Paths which share a colour and arrow style are constrained to be equal between partners given

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<sup>1</sup> Our sample included couples at various points in their MAR journey such that some were actively receiving treatment or experienced a pregnancy; we retained all couples in our analyses. Independent sample *t*-tests assessed group differences in our study variables. Among couples who received or did not receive treatment during the study and those who became pregnant or did not become pregnant, there were no significant differences between groups for sexual growth and destiny beliefs, or positive and negative dyadic coping. The lack of group differences further supports treating couples as indistinguishable.

dyads were treated as indistinguishable. While paths were constrained to be the same between partners, they were not constrained to be the same across time. Given the extent of changes that can arise in a 6-month time-frame, as well as evidence of state-like properties of sexual growth and destiny beliefs<sup>22, 29</sup>, it was not theoretically or statistically appropriate to constrain paths across time. Models met or exceeded appropriate fit criterion, as described next, and fit indices for all models are reported in the results: (1) a non-significant Chi-Square value, (2) the Confirmatory Fit Index (CFI) and Tucker-Lewis Index (TLI) are greater than .95, (3) the Root Mean Square Approximation of Error (RMSEA) is less than .06, with a 90% confidence interval that does not contain .08 or higher, and (4) the Standardized Root Mean Square Residual (SRMR) is less than .08<sup>42</sup>.

## Results

Table 2 depicts descriptive statistics and correlations amongst study variables at all time-points. Figures 1 and 2 depict all between- and within-person effects for each negative dyadic coping RI-CLPM. Supplemental Figures 3 and 4 depict each positive dyadic coping RI-CLPM. As the autoregressive and concurrent associations do not pertain to our primary hypotheses, they are only reported in Figures 1 and 2, and Supplemental Figures 3 and 4 (found on OSF), and not in text. Supplemental Table 1 reports the full results of each model.

### Negative Dyadic Coping

**Model 1 - Sexual Growth Beliefs.** The fully constrained model fit was adequate,  $\chi^2(44) = 50.81$ ,  $p = .22$ ; CFI = 0.99, TLI = 0.99; RMSEA = 0.03 [90%CI = 0.00 – 0.06]; SRMR = .10. There were no between-person associations between an individual's sexual growth beliefs and their own or their partner's negative dyadic coping. In support of our within-person level hypothesis, reporting higher than average sexual growth beliefs at baseline was associated with decreases in one's own negative dyadic coping at 6-months. Specifically, a one unit increase in person-mean deviations of sexual growth beliefs at baseline predicted a decrease of 1.57 units in person-mean deviations of negative dyadic coping at six months. Moreover, reporting higher

than average negative dyadic coping at 6-months was linked to decreases in one's own sexual growth beliefs at 12-months. Specifically, a one unit increase in person-mean deviations of negative dyadic coping at six months predicted a decrease of 0.03 units in person-mean deviations of sexual growth beliefs at 12 months. There was no significant within-person association between an individual's sexual growth beliefs and their partner's negative dyadic coping.

**Model 2 - Sexual Destiny Beliefs.** The fully constrained model demonstrated excellent fit,  $\chi^2(44) = 58.82$ ,  $p = .07$ ; CFI = 0.99, TLI = 0.98; RMSEA = 0.04 [90%CI = 0.00 – 0.06]; SRMR = .05. In line with our between-person hypothesis, individuals with higher than average levels of sexual destiny beliefs across the 12-month period reported higher overall levels of negative dyadic coping. Specifically, average levels of sexual destiny beliefs at 12 months was linked to average levels of negative dyadic coping at 12 months ( $B = 0.68$ ;  $p = .04$ ). There was no significant association between an individual's sexual destiny beliefs and their partner's negative dyadic coping at the between-person level. We identified two cross-lagged effects that supported our within-person hypotheses. When individuals reported higher than average sexual destiny beliefs at 6-months, they and their partners reported increases in negative dyadic coping at 12-months. Specifically, a one unit increase in person-mean deviations of sexual destiny beliefs at six months predicted (a) an increase of .99 units in person-mean deviations of negative dyadic coping at 12 months for oneself, and (b) an increase of 1.12 units in person-mean deviations of negative dyadic coping at 12 months for one's partner.

### **Positive Dyadic Coping**

**Model 3 - Sexual Growth Beliefs.** The fully constrained model fit was adequate,  $\chi^2(44) = 54.15$ ,  $p = .14$ ; CFI = 0.99, TLI = 0.99; RMSEA = 0.03 [90%CI = 0.00 – 0.06]; SRMR = .10. We did not find any significant between- or within-person associations amongst sexual growth beliefs and positive dyadic coping.

**Model 4 - Sexual Destiny Beliefs.** The fully constrained model fit was adequate,  $\chi^2(44)$

= 58.58,  $p = .07$ ; CFI = 0.99, TLI = 0.98; RMSEA = 0.04 [90%CI = 0.00 – 0.06]; SRMR = .08. As in Model 3, there were no between- or within-person associations amongst sexual destiny beliefs and positive dyadic coping.

## Discussion

In this longitudinal and dyadic study, couples' beliefs about how to sustain their sexual health—sexual growth and destiny beliefs—corresponded to changes in their own and their partner's negative dyadic coping over a one-year period of receiving or considering MAR. Specifically, greater sexual growth beliefs were related to an individual's lower negative dyadic coping over a 6-month period, and likewise, greater negative dyadic coping was associated with lower sexual growth beliefs 6-months later. In addition, higher-than-average overall sexual destiny beliefs were related to higher overall levels of negative dyadic coping. We also found that higher-than-average sexual destiny beliefs at 6-months was linked to an individual's and their partners' higher-than-average negative dyadic coping at 12-months. We found no significant associations between sexual growth and destiny beliefs and positive dyadic coping. Our results are in line with and build upon the VSA model and prior research by demonstrating sexual growth and destiny beliefs to be a cognitive vulnerability that predicted negative dyadic coping over time in the context of a major life stressor.

### **Sexual Growth and Destiny Beliefs and Negative Dyadic Coping**

Our findings replicate and extend prior cross-sectional research by demonstrating a temporal within-person relationship between sexual growth beliefs and negative dyadic coping, such that reporting higher than average sexual growth beliefs at baseline was associated with decreases in an individual's own perceptions of negative dyadic coping 6-months later (Finding #1). Researchers have consistently demonstrated that growth-oriented beliefs are associated with less engagement in negative or avoidance-based individual coping behaviors<sup>28-30</sup>. Growth oriented beliefs are related to the perception of challenges and threats as opportunities to “work-it-out”. Indeed, researchers have demonstrated that more growth-oriented beliefs are associated

with greater accommodation of a partner's unhelpful behaviors and fewer thoughts of ending a relationship in the face of a challenge <sup>43</sup>. Thus, when faced with common sexual challenges in MAR, endorsing greater sexual growth beliefs may prompt cognitions and behaviors that orient the person to engage in less negative dyadic coping.

Although not hypothesized, our analyses also found evidence of the reverse direction, whereby reporting higher than average negative dyadic coping at 6-months was linked to decreases in one's own sexual growth beliefs at 12-months (Finding #2). Based on empirical and theoretical developments, the VSA model has been adapted to include bidirectional relationships amongst the factors. These adaptations support the novel reciprocal relationship between implicit sexual beliefs and negative dyadic coping that we identified <sup>12, 13</sup>. When couples use more negative dyadic coping, especially as they navigate stressors involved with seeking MAR, it may diminish feelings of intimacy and relationship quality (e.g., <sup>17</sup>) which in turn, could reduce their belief that sexual well-being can be improved with time and effort.

Individuals who consistently reported higher levels of sexual destiny beliefs across a one- year period tended to also report higher than average overall levels of negative dyadic coping (Finding #3). Destiny beliefs within and outside the domain of sexuality have been theorized and shown to be associated with less effective individual coping behaviors <sup>27-29</sup>. In addition, among individuals reporting higher than average sexual destiny beliefs at 6-months, they and their partner reported increases in their average levels of negative dyadic coping at 12-months (Finding #4). Believing that sexual challenges are an indicator of incompatibility may feel threatening to couples' relationship, which may further compound existing perceptions of threat to their relationship and identity that can arise from requiring MAR more broadly <sup>44</sup>. These experiences of threat may generate intolerable emotions that motivate couples to more strongly rely on negative coping strategies <sup>28</sup>. Thus, we extend prior work by demonstrating that consistently reporting higher sexual destiny beliefs over one year and endorsing higher than usual sexual destiny beliefs, are associated with how both members of a couple perceive their

coping together. Still, some paths within our RI-CLPM models for negative dyadic coping were non-significant. At baseline, all couples were either still considering pursuing or in the early phases of MAR. It is possible that more effects of sexual growth and destiny beliefs on negative dyadic coping might emerge following the accumulation of MAR-related burdens (e.g., side effects of treatment procedures) over time.

### **Sexual Growth and Destiny Beliefs and Positive Dyadic Coping**

In contrast to our predictions, we found no evidence of between- or within-person associations amongst sexual growth and destiny beliefs and positive dyadic coping (Null Finding). Much of the literature has demonstrated growth-oriented beliefs to be related to greater positive coping behaviors relative to destiny-oriented beliefs, however, two studies in the domain of sexuality demonstrated no significant associations between growth and destiny-oriented beliefs and positive coping<sup>29, 30</sup>. The couples in our sample endorsed relatively high levels of positive dyadic coping. It is possible that couples could not accrue additional benefits of positive dyadic coping offered by sexual growth beliefs. Regarding sexual destiny beliefs and positive dyadic coping, prior work has shown that individuals who hold stronger destiny-oriented beliefs perceive efforts to overcome challenges as futile, and consequently, prioritize negative coping strategies, such as avoidance<sup>28</sup>.

Taken together, we found evidence supporting the associations between sexual growth and destiny beliefs and negative dyadic coping. However, several of our longitudinal and dyadic hypotheses, were not supported. Future research should examine other predictors that could be relevant for couples seeking MAR, such as coping resources<sup>45</sup>. Whether positive and negative dyadic coping function as mediators in the associations between sexual growth and destiny beliefs and other dyadic outcomes (e.g., sexual well-being;<sup>22, 23, 24</sup>) is also an important avenue for future work. Future research should seek to replicate our findings in other samples of couples navigating sexual concerns, or control samples of couples not seeking MAR, to

evaluate whether MAR is a necessary context in which associations amongst our study variables emerge.

### **Strengths, Clinical Implications, and Limitations**

Important strengths of this study were the engagement of community partners with lived experience of MAR and our large and inclusive sample. The feedback received from community partners was crucial to the development of this research, including revision of our measures and advertisements to better reflect the unique needs of 2SLGBTQ+ couples. With theoretical models positing sexual growth and destiny beliefs to emerge during periods of sexual health difficulties, we extended past research by focusing on a time-frame where couples are actively experiencing physical and mental health stressors to their relationship and sex lives <sup>29, 30</sup>. Our study design and analytical approach also expanded prior literature by assessing how change in sexual growth and destiny beliefs relate to couples' coping behavior over one-year. Specifically, the findings build upon the VSA model by providing support for our conceptualization of sexual growth beliefs as a strength and sexual destiny beliefs as a cognitive vulnerability factor that, in the context of MAR, limit and promote couples' engagement in negative dyadic coping, respectively <sup>11</sup>. Thus, identifying and modifying sexual growth and destiny beliefs may be important for reducing partners' negative coping behaviors and could be integrated into existing interventions for couples who require MAR <sup>46</sup>. Stability and variation in implicit beliefs has been evidenced throughout the literature, suggesting that these beliefs can dictate how a person generally responds to their environment, but also that beliefs can be adapted or become more salient in the face of new situations or information <sup>43</sup>. By identifying between- and within-person effects of sexual destiny beliefs, we offer further evidence of these beliefs as both state and trait variables. Additionally, we detected early evidence as to the bidirectionality of sexual growth beliefs and negative dyadic coping. This result is in accordance with the VSA and cognitive-behavioral models, in which there is a circular process through which situations can prompt

thoughts, which can lead to emotions and corresponding behaviors, which can then influence thoughts and ultimately initiate another iteration in the cycle <sup>47</sup>.

Acceptance-based cognitive behavioral approaches may be particularly helpful for couples as they navigate sexual challenges such as MAR, given that many of their thoughts may in fact be accurate (i.e., having sex on a schedule is less satisfying) but can contribute to the development of further unhelpful thoughts and ineffective coping behaviors. Clinicians might assist couples with reflecting on the strategies they use to cope with stressors, with a focus on identifying unhelpful sexual thoughts and negative dyadic coping strategies. Acceptance-based cognitive behavioral strategies might assist couples with managing sexual growth and destiny beliefs when they become unhelpful and have negative implications for behavior. For example, cognitive defusion aims to create distance between oneself and thoughts, allowing thoughts to come and go without attempting to change or follow them <sup>48</sup>. Using cognitive defusion, individuals and couples navigating MAR may notice when their sexual destiny beliefs are activated, without interpreting them as a cause to action. Thus, allowing unhelpful thoughts related to sexual destiny beliefs to “come and go” may enhance a person’s comfort with sitting with feelings of being overwhelmed, and thus limit their reliance on avoidance-related coping behaviors. However, since we did not find evidence of an association between sexual growth and destiny beliefs and positive dyadic coping, future research should explore the relationship between sexual growth and/or destiny beliefs and other adaptive processes that could be targeted in interventions. Additionally, several of our hypotheses were not supported, thus the strength and stability of these associations should be further explored before drawing more conclusive clinical implications and recommendations.

There are also notable limitations to the present research. Our study followed couples over 6-month increments, which may not have best captured changes as couples seek MAR. For example, the effects between couples’ sexual growth and destiny beliefs and their positive or negative dyadic coping may only occur when sexual difficulties emerge during a specific

treatment process (e.g., side-effects from hormonal stimulation, having sex "on the clock"; <sup>49</sup>). Relatedly, research examining sexual growth and destiny beliefs rooted within the VSA model should establish the appropriate conditions (i.e., sexual stressor) to fully capture the salience of these beliefs and their subsequent effects on sexual well-being and adaptive behaviors. For example, future work could measure stress associated with sex directly (i.e., through physiological measures during an in-lab discussion of sexual concerns during MAR) or indirectly (i.e., sexual distress) alongside sexual growth and destiny beliefs and outcomes. Framing our questionnaire to examine MAR-specific dyadic coping, rather than general dyadic coping may have also allowed us to detect nuanced effects directly pertaining to the context of MAR. Tools for conducting a RI-CLPM power analysis have not been adapted to account for dyadic data <sup>50</sup>. Given the lack of longitudinal investigations involving sexual growth and destiny beliefs, accurate estimates of the variances, covariances, and effect sizes of our hypothesized associations – we did not have the information necessary for a power analysis. As such, we may have been limited in our statistical power and unable to detect all possible significant effects. Although we had a large sample of sex and gender diverse individuals (approximately 20%), which contributes to the generalizability of our results, our sample was still largely comprised of White, married, highly educated, cisgender, heterosexual individuals. MAR requires a considerable investment of time and financial resources. Recruiting couples seeking MAR does not capture the perspectives of all who require MAR.

## **Conclusions**

As couples seek MAR they are faced with a multitude of stressors; our findings suggest that lower growth and higher sexual destiny beliefs make couples vulnerable to engaging in more negative coping. As the first investigation into the psychosocial predictors of couples' dyadic coping during MAR, our results extend prior theory and research by providing evidence of *sexual* growth and destiny beliefs as modifiable factors that underpin negative coping in couples, particularly in a novel population of couples seeking MAR. Taken together, the findings

539 highlight the potential utility of psychosocial interventions aimed at identifying and working with  
540 unhelpful thoughts and negative dyadic coping among couples who require MAR.

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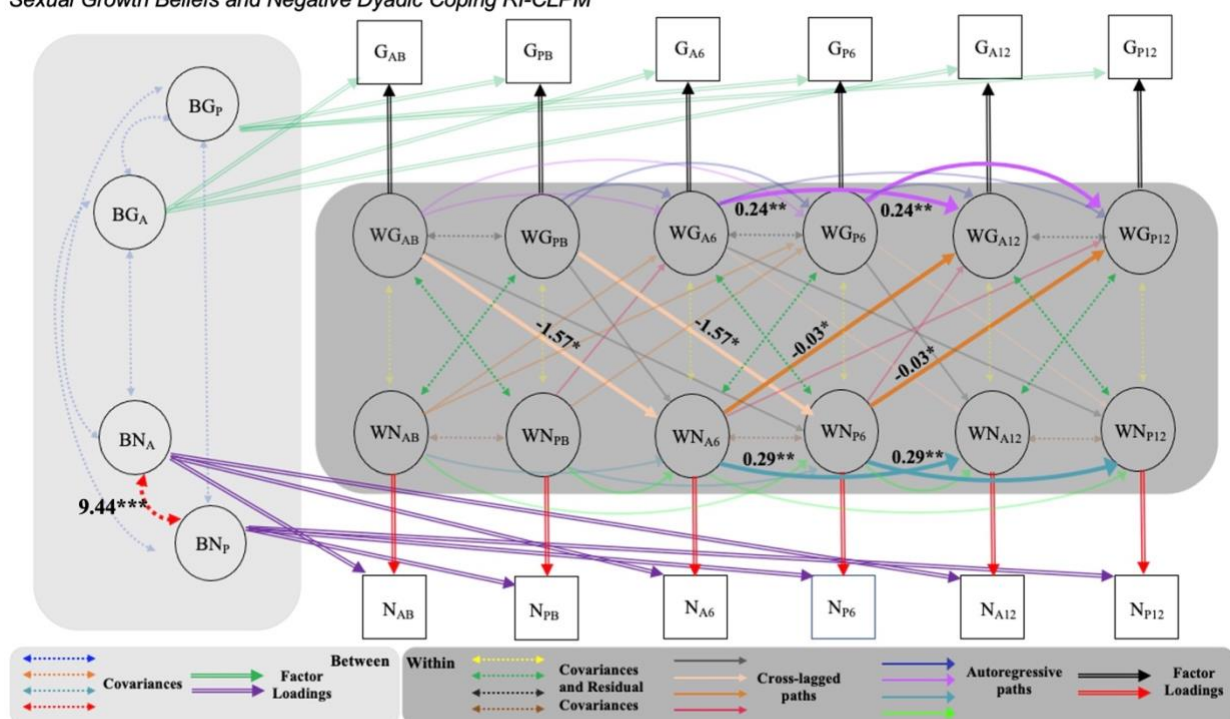
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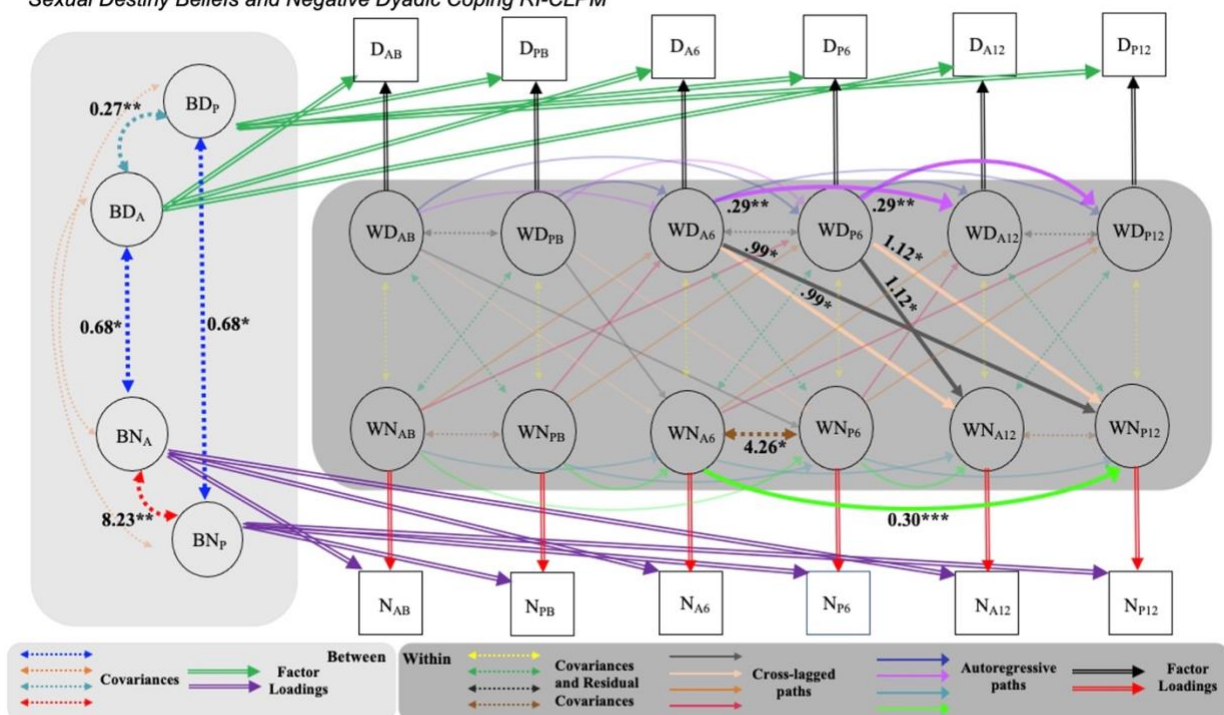
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**Figure 1**  
Sexual Growth Beliefs and Negative Dyadic Coping RI-CLPM



Note. **B** = Between-person, **W** = Within-person, **G** = Sexual Growth Beliefs, **N** = Negative Dyadic Coping, **AB** and **PB** = Actor and Partner Baseline Score, **A6** and **P6** = Actor and Partner 6-Month Score, **A12** and **P12** = Actor and Partner 12-Month Score. Paths that share colour and arrow style are constrained to be equal between partners as dyads were indistinguishable. Paths were not constrained to be the same across time, which is not shown here for parsimony. Significant paths are bolded. Non-significant paths are faded.

**Figure 2**  
Sexual Destiny Beliefs and Negative Dyadic Coping RI-CLPM



*Note.* **B** = Between-person, **W** = Within-person, **D** = Sexual Destiny Beliefs, **N** = Negative Dyadic Coping, **AB** and **PB** = Actor and Partner Baseline Score, **A6** and **P6** = Actor and Partner 6-Month Score, **A12** and **P12** = Actor and Partner 12-Month Score. Paths that share colour and arrow style are constrained to be equal between partners as dyads were indistinguishable. Paths were not constrained to be the same across time, which is not shown here for parsimony. Significant paths are bolded. Non-significant paths are faded.