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INVESTIGATING THE ROLE OF IMPLICIT THEORIES OF RELATIONSHIPS ON THE
INTERPRETATION OF INVESTMENTS IN RELATIONSHIP DECISION-MAKING

By

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Bachelor of Arts (Honours), Wilfrid Laurier University, 2015

Master of Arts, Wilfrid Laurier University, 2017

DISSERTATION

Submitted to the Department of Psychology

in partial fulfillment of the requirement for

Doctor of Philosophy in Psychology

Wilfrid Laurier University

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Abstract

A person's prior investment in their romantic relationship is a strong predictor of whether they remain committed to that relationship (e.g., Le et al., 2010; Rusbult, 1980a; 1983), and this pattern is often seen outside of interpersonal contexts as well (e.g., Arkes & Blumer, 1985; Olivola, 2018; Thaler, 1980). However, little research has considered the extent to which commitment-relevant decisions might be affected in a top-down way by people's implicit theories of relationships (ITRs; Knee, 1998). I theorized that lay theories about how relationships work may affect the extent that people consider past investments when making decisions about continuing with a course of relationship action (or not). Across five online experiments using undergraduate student and adult samples (total $N = 1,826$), I tested the hypothesis that greater (vs. lesser) relationship investments would influence when people chose to continue with the current course of action or choose to pursue an alternative one, and that this effect would be enhanced amongst people with a stronger growth belief. I hypothesized that higher investment and stronger growth beliefs would lead people to form more optimistic expectations about continuing with a current course of action in the relationship, versus choosing an alternative course of action. Results revealed that greater investment predicted a preference for staying on a current course of action over an alternative one, compared to when there was lower investment. As well, stronger growth beliefs sometimes predicted a preference for staying on a current course of action over an alternative one, compared to weaker growth beliefs. However, the results from these five studies did not support my hypothesis that these two factors would interact. These data suggest that investment size has a much more robust effect on shaping relationship decisions whereas implicit theories of relationships do not seem to reliably make someone more or less sensitive to relationship investments when making these decisions.

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I am grateful for my family and friends for their unconditional love and support. Although many of them may not know what it means to be a graduate student or a scientist (or even fully understand what I do), they have been a constant support system and cheering squad while I pursued this work and all the successes and stresses that come along with it.

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Introduction

Imagine a scenario where two relationship partners have been experiencing a recurring conflict that has led them to deliberate whether they should remain in the relationship and try to improve the situation, or alternatively, to leave one another, thereby avoiding dedicating time and effort into a relationship that is no longer functioning well. Why might someone decide to continue to pursue the current course of action within their romantic relationship (e.g., stay in their relationship), or decide to pursue an alternate course of action (e.g., leave their relationship)?

In a recent review, Joel and MacDonald (2021) argued that people's relationship decisions tend to show a *progression bias* whereby they tend to favour a current decision that maintains a relationship over alternative courses of action that could result in rejecting partners or missing out on romantic opportunities. That is, individuals tend to make decisions that usher romantic relationships toward commitment (e.g., pursuing potential partners, agreeing to go on dates, and investing time and resources into the relationship) rather than dissolution (e.g., rejecting potential partners or breaking up a relationship). For example, emotional investments, such as attachment to romantic partners, appear to emerge quickly (Heffernan et al., 2012), and established couples often make serious relationship decisions with little conscious deliberation (Lindsay, 2000; Manning & Smock, 2005; Sassler, 2004; Stanley et al., 2006).

The inclination to maintain relationships is also evident in research examining commitment. People tend to choose to stay the course when they consider their rewards outweigh their costs, and when their current situation is equivalent to or exceeds what they believe is available to them elsewhere (e.g., in different relationships; Rusbult, 1980; Rusbult et al., 1998; Thibaut & Kelley; 1959). Importantly, however, past investment also plays a role in

this decision. The more one has invested in a relationship, the less likely they are to leave that relationship even if it becomes unrewarding (e.g., Rusbult et al., 1998).

While research has largely characterized the progression bias and relationship commitment as adaptive in serving to keep relationships together, this may not be advantageous in every situation. Those who devote considerable emotional, temporal, and tangible resources to maintaining a relationship that may be unable to improve risk missing opportunities to pursue more rewarding alternative options, such as finding a more compatible partner or simply escaping the burden of a deteriorating relationships (e.g., McNulty, 2008; McNulty & Fincham, 2012). Relatedly, research on the sunk cost effect (e.g., Arkes & Blumer, 1985; Olivola, 2018; Thaler, 1980) has demonstrated that people are reluctant to deviate from a current course of action to the extent that they have invested in it, even if pursuing an alternative course of action would be more beneficial.

While it is firmly established that people tend to commit to a current course of action over a potentially superior alternative when they have previously invested in it, less research has examined how individual differences might moderate this tendency. In the present work, I investigate how people's implicit theories of relationships (ITRs; Knee, 1998) potentially moderate their sensitivity to investment when making commitment-related decisions. I argue that possessing a stronger growth belief (i.e., the belief that successful relationships result from investing effort to overcome obstacles and challenges) may make someone particularly sensitive to relationship investments. This means that, when there has been greater (vs. lesser) investment in a relationship, someone with a stronger growth belief may view those investments as further justification they should work to overcome obstacles to strengthen their relationship, and therefore be less likely to deviate from their current relationship situation. In contrast, an

individual with weaker growth beliefs may be less sensitive to relationship investments when making these types of decisions. There have been some theoretical suggestions that these constructs should be related to one another to predict decisions about relationship outcomes (Knee et al., 2004), but the current set of studies were the first to investigate this hypothesized interaction between ITRs and the interpretation of relationship investments on decision making following relationship conflict.

Investments Shaping Decision-Making: The Investment Model

As a relationship develops, resources like time, money, emotions, and effort are invested by partners when doing things for and with each other to explore, and deepen, their connection. Rusbult's (1980a) *Investment Model* asserts that investments shape feelings of commitment because they often cannot be recovered or they decline in value, thereby increasing the costs of ending a relationship (e.g., Rusbult & Martz, 1995; Rusbult et al., 1998; Tran et al., 2019). In this model, *investment size* refers to the magnitude and importance of the resources that are attached to a relationship (Rusbult, 1980a). These investments can be tangible (e.g., a house, a pet, money) and intangible (e.g., self-disclosures, effort, time), and both have been shown to be associated with relationship commitment and stability (Goodfriend & Agnew, 2008; Rusbult et al., 1998). *Commitment* is defined as intent to persist in a relationship, including long-term orientation toward it and feelings of psychological attachment (Rusbult et al., 1998). It is a complicated psychological experience, and has been conceptualized in several ways, such as staying in (vs. leaving) a current relationship, desiring a relationship to last a long time, devaluing alternative partners or opportunities, feeling greater allegiance or attachment to a person or situation, as well as feeling a greater sense of "we-ness" or shared identity (e.g., Agnew et al., 1998; Rusbult et al., 1998). The Investment Model, therefore, asserts that

commitment is formed based on the extent to which different factors draw someone towards their relationship (e.g., satisfaction and investments) and away from the relationship (e.g., quality alternatives). The level of commitment someone has to their relationship is one of the best psychological predictors of whether that relationship remains intact long-term (Le & Agnew, 2003; Le et al., 2010).¹

Rusbult's (1980a; 1983) initial development of the Investment Model sought to explain why some people stay committed to a relationship despite feeling less satisfied. It grew out of *Interdependence Theory*, which suggests that people's inclination to establish and maintain a relationship can be determined by the relative balance between the perceived rewards and costs of the relationship (Kelley, 1979; Kelley & Thibaut, 1978; Thibaut & Kelley, 1959; Van Lange & Balliet, 2015). Rewards within a relationship can consist of anything associated with being in that relationship that an individual considers to be beneficial or desirable (e.g., love, companionship, opportunities for growth, sexual gratification, respect, and tangible resources). Whereas costs can consist of anything associated with it that an individual considers to be unrewarding or undesirable (e.g., time, loss of opportunities, stress, conflict, loss of esteem, compromises, and tangible resources). Interdependence Theory states that the connection between two people is determined by a combination of two things: by *relationship satisfaction*, which Thibaut and Kelley believed was likely determined by individual's subjective perceptions of reward and cost, and by *level of dependence* which refers to the extent to which an individual

¹ The Investment Model has been replicated across various types of relationships, such as predicting commitment within same-sex couples (Barrantes et al., 2017), among asexual individuals in relationships (Brozowski et al., 2022), and within friendships (Branje et al., 2007; Rusbult, 1980b) including friends with benefits relationships (Vanderdrift et al., 2012). The model's predictive ability has also been replicated in non-romantic domains such as job retention (Rusbult & Farrell, 1983), commitment to academic institutions (Human-Vogel & Rabe, 2015), societal concerns (e.g., the "War on Terror" in the United States; Agnew et al., 2007), and commitment to the environment (Coy et al., 2013; Davis et al., 2011). Across these contexts, stronger commitment tended to be predicted by high satisfaction, low quality of alternatives, and large investment size.

“needs” a given relationship, or relies uniquely on the relationship for attaining desired outcomes (Rusbult et al., 1998). Commitment and dependence are considered related constructs, and both variables are likely to be associated with stay-leave decisions (Drigotas & Rusbult, 1992).

As a part of their theory, Thibaut and Kelley (1959) stated that individuals use a set of criteria to evaluate the rewards and costs “exchanged” within a current situation or relationship. These represent what is expected from a relationship generally (*comparison level*; CL), which can be informed by the quality of past experiences in relationships, and by comparisons to other people’s relationships. There are also criteria associated with perceptions of what alternatives to a relationship could offer (*comparison level for alternatives*; CLalt), and how appealing those alternatives are. It is important to note that comparison levels are subjective, shaped by the individual’s own perspectives, and they differ from person to person. Overall, people tend to view a relationship as worth staying in if their current outcomes meet or exceed their expectations, whereas they may choose to leave their relationship if alternatives are more appealing. These criteria can also inform decisions about continuing with, or committing further to, a current course of action within relationships that are not about potential relationship dissolution. This theory built the foundation for the Investment Model (Rusbult, 1980a) to build upon, and shaped my own theorizing about what might influence these expectations that people have of their relationship, and these evaluations of current and alternative choices.

One of the relationship decisions that I investigated in my research was whether to stay in or leave a relationship. To understand what factors best predict stay/leave decisions (i.e., relationship dissolution), Le and colleagues (2010) conducted a meta-analysis that included samples from 137 studies. They classified predictors as individual factors (e.g., self-esteem, the Big Five, attachment, implicit theories of relationships), relationship factors (e.g., commitment,

satisfaction, alternatives, investments, closeness), and external factors (e.g., social networks and their support). The meta-analysis revealed that implicit theories of relationships (i.e., growth and destiny beliefs) were one of the few individual difference factors that predicted dissolution, specifically that individuals with stronger destiny beliefs were more likely to break up, but this was a small effect size. They also found that a more supportive social network was (i.e., external factors) was moderately associated with lower likelihood of a break-up. As for the relationship factors, consistent with Interdependence Theory (Thibaut & Kelley, 1959), commitment and dependence were among the strongest predictors of breakup. Investment size had a moderate effect size for predicting relationship dissolution, such that higher investment was associated with lower likelihood of a breakup, whereas satisfaction was a less robust predictor of breakup (Le et al., 2010). Overall, this meta-analysis suggested that the most successful efforts to predict whether a relationship remains intact (“stay decision”) or has ended (“leave decision”) are those that assess individuals’ subjective assessments of their relationships, rather than individual difference variables. Further, these results support that investments are associated with decisions to continue with a current course of action over pursuing an alternative in general, specifically staying in a relationship over leaving it.

My current research focused on investments, rather than the other predictors of commitment (i.e., satisfaction level and quality of alternatives), for a few reasons. First, investments could be interpreted as a way of making an effort in the relationship, and perceived effort can be particularly meaningful to individuals who hold lay beliefs that effort is key to making relationships flourish (e.g., growth beliefs; Knee, 1998). Second, by increasing what would be lost if a relationship were to end, investments can provide protective and adaptive effects on relationships by motivating people to remain committed in light of relationship

challenges (e.g., Rusbult et al., 1998). However, the same qualities that can lead to positive outcomes in relationships that are already functioning well, can also lead to negative outcomes in relationships that are not (e.g., Finkel et al., 2014; Lemay & Venaglia, 2016; McNulty, 2010; McNulty & Russell, 2010). That is, whether these factors promote or undermine relationship well-being is dependent on the context in which they operate (McNulty & Fincham, 2012).

For example, across a two-year longitudinal study, greater forgiveness helped maintain marital satisfaction among couples who rarely engaged in hostile behaviours; however, among couples who frequently engaged in hostile behaviours, greater forgiveness was associated with steeper declines in marital satisfaction over time (McNulty, 2008). Within the context of abusive relationships, for example, greater relationship investments and poorer quality of alternatives have been shown to be associated with staying in the relationship, further demonstrating how these predictors of commitment can have maladaptive effects on decisions depending on the context (Rusbult & Martz, 1995).² It is important to acknowledge that there many types of investments that are considered when making big decisions about a relationship. These could include individual or joint financial investments (e.g., savings, financial stability, home-ownership, etc.), children or other dependents, and social ties. The scenarios used in my research did not involve conflicts as serious as abuse, or all possible types of investments, but the demonstrated association between investments and commitment following conflict made me wonder what decisions might be made when the seriousness and persistence of the conflict was more ambiguous. Taken together, decision-making in close relationships inherently involve an emotional component and additional information (e.g., other people's feelings), which may not

² Rusbult and Martz (1995) analyzed intake interview data collected by employees from a women's shelter. They operationalized the Investment Model factors as such: investment size (e.g., marital status, relationship duration), quality of alternatives (e.g., education and income levels), and satisfaction level (e.g., severity and frequency of abuse, abuse history).

be present in decision-making in other non-relational domains. The next section describes a key investment-based theory from behavioural economics – the sunk cost effect – that shares the underlying premise with the Investment Model (Rusbult, 1980a) that investments can influence decision making.

Investments Shaping Decision-Making: The Sunk Cost Effect

The effect of investments on decisions has not only been demonstrated in relationships, it has also been demonstrated in non-romantic domains. Namely, the *sunk cost effect* occurs when a prior investment of money, effort, or time leads to a continuous investment in a failing path of action (Arkes & Blumer, 1985; Thaler, 1980; related to “escalation” in Brockner, 1992). This process is described as a cost-benefit analysis in decision making that becomes biased by past costs. It is considered a violation of “rational decision making” or the “normative model” from a traditional economics theory perspective, because initial investment should “objectively” have no bearing on the current decision because the investment is irretrievably lost (e.g., Arkes & Blumer, 1985; Bornstein & Chapman, 1995; Thaler, 1980). In these scenarios, it is considered most logical to stop the current behaviour and switch to an alternative one because there is no future utility derived from the failing current action. As previously demonstrated, despite being “irrational” from an economics point of view, investments matter to individuals when they are making decisions within romantic and non-romantic contexts.

It is theorized that the psychological reason for bias towards continuing when there are prior investments is because people want to justify their past behaviour, appear consistent in their decision making, and not appear wasteful (e.g., Arkes & Blumer, 1985; Brockner, 1992). Thaler (1980) also explained that the sunk cost effect is related to the way people value losses and gains differently (e.g., *prospect theory*, or *loss aversion theory*; Kahneman & Tversky, 1979,

1984; Tversky & Kahneman, 1986). Specifically, because people tend to be loss averse, they are inclined to weigh potential losses more heavily than gains. This can propel them to commit more resources into a losing course of action, even after negative outcomes, because they do not want to “lose” what they have already invested. This relates to Interdependence Theory (Thibaut & Kelley, 1959) and the Investment Model (Rusbult, 1980a) in relationships, as previously described, such that because people want to maximize rewards and minimize costs, and investments are one of the main predictors of commitment.

Arkes and Blumer (1985) largely demonstrated the sunk cost effect across ten experiments using various hypothetical and real scenarios. In Experiment 1, they used a hypothetical scenario where participants were asked to imagine they purchased a ticket to a weekend ski trip for \$100. The scenario went on to describe that, a few weeks later, they purchased a ticket for a different ski trip for \$50, but then they realized that the two trips were on the same weekend. The scenario described that they would enjoy the \$50 trip more and that the ticket they did not use could not be resold or refunded, so they had to decide which trip they would go on. The results indicated that most participants chose to go on the trip with a ticket that cost \$100 compared to the \$50 one, demonstrating the sunk cost effect. In Experiment 4 by Arkes and Blumer (1985), participants were asked to read one of two hypothetical scenarios: one described a project that had significant investment towards it (*sunk cost condition*) and the other scenario described a project that had no prior investment (*no sunk cost condition*). Participants were asked to indicate if they wanted to invest their remaining money into the project described, and then to rate the likelihood of success of the project. The results demonstrated that, not only did participants who read the sunk cost scenario want to invest more money in the project, but they also reported higher likelihood of success of the project, compared to those in the no sunk

cost scenario, suggesting that there are more positive expectations of outcomes that have had more investment in them, compared to less. This inflated perception of success and positive outcomes contributed to my decision to include secondary outcome measures related to positive and negative expectations associated with the choices being made in my studies.

The former examples demonstrated *intrapersonal* contexts in which the sunk cost effect occurs with one's own investments; however, this effect has also been shown within *interpersonal* contexts. Specifically, across eight experiments, Olivola (2018) found that people tended to choose the option with the sunk cost in response to *other people's* past investments, not just their own past investments. For example, in one of these experiments, participants read a variation of a scenario about a basketball game (Thaler, 1980). Specifically, participants were asked to imagine they obtained a front-row ticket to a basketball game, either on their own (*self condition*) or from a friend who could no longer go (*other condition*), and the ticket was either obtained for free (*no sunk cost condition*) or at a cost of \$200 (*sunk cost condition*). The scenario described that a terrible storm was supposed to happen on the day of the game, which would make their commute very unpleasant, and they were unable to exchange the ticket or give it to someone else. At the end of the scenario, participants indicated whether they would go see the game in person anyways, or stay home and watch it on TV. The results revealed the typical *intrapersonal* sunk cost effect, such that participants were more likely to attend the game in person (i.e., the less enjoyable option) when they had paid \$200 of their own money to obtain it (high self sunk cost) than when they had invested nothing (no self sunk cost). Further, the results of this experiment also demonstrated a significant *interpersonal* sunk-cost effect, such that participants were also more likely to choose to go see the game in person when *someone else* (i.e., their friend) had paid \$200 to obtain it (high other sunk cost) than when that same person

had invested nothing (no other sunk cost). These results suggested that the sunk cost effect is not limited only to costs incurred by the decision-maker, but also when costs are incurred by other people.

To further test this interpersonal effect, in a later experiment, Olivola (2018) manipulated the social closeness of the other person who incurred the sunk cost (i.e., other: friend, acquaintance, or stranger). The participants assigned to the higher sunk cost condition still selected the less enjoyable option more often, compared to those assigned to the lower sunk cost condition. This was true even when costs were incurred by other people, including those they have no relationship with (i.e., strangers), which suggested that social closeness did not moderate the interpersonal sunk cost effect. Taken together, these findings deepened our understanding of the sunk cost effect within interpersonal contexts. Namely, the impact of investments on decision-making can transcend one's own investments and apply to investments made by other people. This provides additional support that the hypothetical scenarios I used in my current research could capture the hypothesize effect of investments on decision-making processes.

The logic underlying people's tendency to commit sunk costs effects in economic domains bears similarity to Rusbult's theorizing on the role of past investments in guiding commitment to romantic partners (e.g., Rusbult, 1980a). However, there have been few studies to date that directly examined whether people exhibit sunk cost biases in romantic relationships (e.g., Coleman, 2009; Goodfriend & Agnew, 2008; Rego et al., 2018). Specifically, in Coleman's (2009) computer simulation study, participants invested one of five amounts of effort into the selection process of a potential date on an online dating website (negligible, low, moderate, high, or maximum), and had to choose whether to attend the date they arranged online or attend a superior alternative date (i.e., the person possessed attributes of the participants' ideal partner)

that was presented at the moment of choice. Results demonstrated that participants tended to continue with the date they arranged online, despite the alternative blind date being a better option. Notably, this study illustrated the sunk cost effect during relationship initiation, a stage that should not be subjected to the same influences of investments within an existing relationship (e.g., the investment model theorizing, e.g., Rusbult, 1980a; or progression bias, Joel & MacDonald, 2021), further demonstrating the influence of investments on decision-making.

Rego and colleagues (2018) sought to investigate whether sunk costs influenced people's decision to stay in, or leave, an unhappy marriage. The authors created four scenarios, each about an unfulfilling marriage that the participants were asked to imagine themselves in, and they included one of four investment conditions: control, time, money, or effort condition. The *control condition* described that the couple had been married for the past 10 years, but they had been feeling unhappy over the recent months and describe several problems in the relationship. The *time condition* differed from the control condition only by saying the couple had been married for 1 year instead of 10 years. The *money condition* added a sentence to the control condition that described a major joint investment of the couple (i.e., a house) and a stable economic situation. The *effort condition* added a sentence to the control condition that described the "huge effort" they had made to try to improve the situation. At the end of the scenario, participants had to choose one of two response options: end the relationship or continue the relationship. In Study 1, there were significant differences between the control condition and both the money and effort conditions, supporting the occurrence of the sunk cost effect. There was not a significant difference between the control and time conditions. The authors noted their surprise of the lack of the hypothesized effect of time investment, I suggest that this could be due to confounds in their scenarios. Although it is fair to say that the presence of a significant

difference between the control condition and the money and effort conditions suggests that these two types of investments influence decisions over and above the 10 years of marriage (i.e., time spent together), there could have been a cumulative effect of investments because time investment was high, as well as there being effort or money investment (i.e., control, effort, and money conditions all referenced 10 years of marriage). Whereas in the time condition (i.e., one year of marriage), the amount of investment described was a *lower* investment level relative to the control condition by nine years. When I developed the scenarios in my studies, I was careful to avoid this type of confounding across the high and low investment conditions.

In Study 2, rather than using a dichotomous stay or leave outcome measure, Rego and colleagues (2018) captured continued investment in the relationship using two measures: one was a slider scale from 0 (no time) to 100 (a lot of time) to indicate how much time they would be willing to invest in that relationship. After that, participants were asked to specify how much time that corresponded to in days, weeks, months, or years. The researchers observed a significant effect of time investment, such that participants reported more willingness to invest more time in the relationship going forward when there had been more time invested in the relationship in the past, like the couple in the scenario being together for 10 years (vs. 1 year together). Although these studies illustrated the presence of the sunk cost effect, there were issues with the ways that time and other types of investments were confounded with one another in the money and effort scenarios. The current set of studies aimed to conceptually replicate and expand on these findings by using different scenarios and including the hypothesized effect of ITRs.

Following this review of the literature related to investments and commitment-related decision-making in romantic relationships, it remained unknown whether there are individual

differences that shape sensitivity to investments in these decisions and, if so, what those differences are. To my knowledge, there is very little published research investigating how qualities or beliefs of an individual relate to how sensitive they are to the investments made in a relationship, or how they interpret these investments. A somewhat related example looked at the impact of personality traits, a type of individual difference, on investment in social relationships more broadly (Lodi-Smith & Roberts, 2007). Specifically, this meta-analysis on 94 articles revealed that the amount that someone invested in social roles, such as in their work, family, religious community, or volunteerism, was positively related to personality traits such as agreeableness, conscientiousness, emotional stability, and low psychoticism. These findings were more robust when the individual was also more committed to the social role. The authors concluded that it is important to understand social investment from a psychological perspective. Although my research does not examine the association between personality characteristics and investment, this research by Lodi-Smith and Roberts (2007) suggested that investment can be related to individual characteristics.

My research examines how investments may be interpreted to shape decision-making in relationships, particularly decisions around continuing with a current course of action, or pursuing an alternative one, when a conflict arises. Related, some individual difference variables, specifically implicit theories of relationships (i.e., growth and destiny beliefs; Franiuk et al., 2002; Hui et al., 2012; Knee, 1998; Knee et al., 2003; see review by Knee & Canevello, 2006), have been shown to have an association with relationship dissolution, albeit a small effect size (e.g., Le et al., 2010). I propose and test a novel theory that implicit theories of relationships (ITRs) may be an individual difference that can impact an individual's sensitivity to, or interpretation of, relationship investments when deciding what to do following relationship

conflict. The following section provides an overview of the research on these ITRs, but in short, these theories are beliefs or orientations through which individuals derive meaning from relationship experiences and are associated with relationship initiation, conflict resolution and maintenance of relationships among other relationship processes.

Implicit Theories of Relationships

Implicit theories of relationships (ITRs) are considered mindsets or orientations that influence individuals' approach to relationships. Specifically, these theories guide people's beliefs about how malleable relationships are and such beliefs in turn shape expectations, motivations, behaviours, and attributions in romantic relationships (e.g., Franiuk et al., 2002; Hui et al., 2012; Knee, 1998; Knee et al., 2003; see review by Knee & Canevello, 2006). There are two types of ITRs: growth beliefs and destiny beliefs. A growth belief is defined as the belief that successful relationships need to be developed gradually, and that they are cultivated and nurtured over time (Knee, 1998). This belief has also been referred to as *work-it-out theories* because they encompass the notion that challenges in a relationship can be overcome by putting in effort and evolving to meet the needs of one's partner over time (Franiuk et al., 2004).

Destiny belief, on the other hand, is defined as the belief that successful relationships are something that are "meant to be" and that a potential partner is either compatible with oneself or not (Knee, 1998; Knee et al., 2003). This belief has also been referred to as *soulmate theories* (Franiuk et al., 2002), which refers to the belief that relationship success is based on whether romantic partners are destined to be compatible, and that one can immediately diagnose the potential of a relationship to last. For simplicity, in the current work, I used destiny/growth language because it is most used by other researchers in the field (e.g., Maxwell et al., 2017; Thompson et al., 2019; Weigel et al., 2016). Destiny and growth beliefs are theoretically and

statistically independent constructs, meaning that individuals can be high or low on both destiny and growth beliefs (Franiuk et al., 2002; Knee, 1998; Knee et al., 2003), and they have been shown to be stable over time (Franiuk et al., 2002).

I theorized that ITRs could shape how investments impact relationship decision-making because existing research has demonstrated that growth and destiny beliefs can influence numerous processes and perceptions within romantic relationships, such as how satisfied and committed people are in their relationship, what attributions and inferences people make from interactions with their partner, the strategies they use to cope with stressful relationship events, the importance they place on their partner's limitations, how they respond to their partner's self-improvement attempts, and the extent to which they persist in the relationship or abandon the relationship when challenges arise (Burnette & Franiuk, 2010; Franiuk et al., 2002; 2004; Kammrath & Peetz, 2012; Knee, 1998; Knee et al., 2001; 2003; 2004). People hold these implicit theories about relationships and how they should operate even before entering a romantic relationship (Franiuk et al., 2004).

The implicit theories that people have about relationships are associated with how they identify potential partners, as well as how they initiate and maintain relationships. For example, when finding a romantic partner, individuals with stronger growth beliefs tend to agree that there are many romantic partner options available to them, all of which have the potential, through effort, to result in a successful romantic relationship (Franiuk et al., 2004). These individuals also report a greater desire to maintain one's relationship during periods of distress (e.g., Franiuk et al., 2002; Franiuk et al., 2004; Santucci et al., 2021) and adopt adaptive coping strategies to do so, such as demonstrating commitment and providing support to one's partner (Weigel et al., 2016). Indeed, growth beliefs have been associated with greater inclusion of other in the self,

more time spent dating the same person, more attempts to maintain or repair a relationship when problems arise, and even fewer one-night stands during the first month of postsecondary education (Knee, 1998). More recently, growth beliefs have also been shown to predict engaging in more self-expansion behaviours, which in turn promotes greater relationship satisfaction, commitment, accommodation, and their decisions around breaking up (Mattingly et al., 2019). For people with stronger destiny beliefs, however, when it comes to finding a partner, compatibility is very important; this belief places emphasis on finding an ideal romantic match and relationship longevity tends to be judged based on initial interpersonal attraction and “chemistry” (Freedman et al., 2019). Stronger destiny beliefs are associated with attempts to diagnose the status and potential success of the relationship based on specific events (Knee et al., 2003). Once those who believe in destiny think that a relationship is meant to be, their relationships can last particularly long. Taken together, people with stronger growth and destiny beliefs differ in their approaches to finding and maintaining romantic partners.

Within the ITRs framework, how conflict and relationship challenges are perceived differ based on whether someone holds stronger destiny or growth beliefs. In the face of relationship challenges, people who hold stronger growth beliefs perceive that these issues as surmountable and as opportunities to better understand one’s partner. Individuals with stronger (vs. weaker) growth beliefs value their ability to work on, improve, and maintain relationships overtime (Knee et al. 2004). They are focused on developing the relationship, and believe that relationships grow and partners become closer because of obstacles and challenges, not despite them, which can help to buffer the negative effects of conflict (Knee et al., 2003; 2004). Because individuals high in growth beliefs view conflict as an opportunity for learning within a relationship, they may seek to forgive a partner after transgressions to a greater extent than those

low in growth beliefs (Knee et al., 2001). However, this is likely only true for behaviours that are construed as reasonable opportunities for growth. Further, compared to people with destiny beliefs, people with stronger growth beliefs have a greater tendency to believe that their partner can change their faults (Knee et al., 2003), to remain committed to their relationship despite experiencing conflict (Knee et al., 2004), and to forgive their partner following infidelity (Thompson et al., 2020). These findings on how ITRs navigate conflict, paired with related findings from the Investment Model literature, are central to my theorizing that there could be a relationship between how investments and ITRs, particularly growth beliefs, impact relationship decision making processes.

Stronger destiny beliefs, on the other hand, tend to be associated with being more judgemental of relationships. Therefore, when problems arise, these individuals are more likely to view the problem as a sign that the relationship is not meant to be or they are incompatible partners (Knee, 1998; Knee et al., 2003). Individuals with a stronger destiny belief tend to be more likely to use maladaptive relationship coping strategies when their relationships face hardships (e.g., distance themselves from a partner after a negative event), including reporting less commitment after conflict compared to those with fewer destiny beliefs (Knee, 1998; Knee et al., 2001; 2004). When problems arise early on, or when initial satisfaction is low, stronger destiny beliefs are associated with disengaging from, and even ending, the relationship (Knee, 1998). Individuals with stronger destiny beliefs have also been associated with abruptly cutting off all contact (i.e., “ghosting”) with someone to end the relationship, compared to individuals with weaker destiny beliefs or with stronger growth beliefs (Freedman et al., 2019). However, the more that individuals with strong destiny beliefs view their partners as soul mates or perceive they are a good fit together, they tend to engage in relationship-enhancing cognitive and

behavioural patterns, such as holding positive illusions about their partners (Franiuk et al., 2004) and displaying greater forgiveness of transgressions (Burnette & Franiuk, 2010). This suggests that it is possible that individuals with stronger (vs. weaker) destiny beliefs may be more prone to deciding to leave a relationship, or pursue an alternative course of action following conflicts. But compared to individuals with stronger growth beliefs, less is known overall about how individuals with stronger destiny beliefs behave in longer term relationships.

These ITRs are said to be fundamental assumptions that guide how meaning is assigned to relationship events and conflicts that arise, and thus how someone copes as a result (Knee & Canevello, 2006; Knee et al., 2003). For example, past literature has postulated that individuals with stronger destiny and growth beliefs may be differentially affected by investment (Knee et al., 2004), which prompted my theorizing about a potential link between these ITRs and how investment shapes relationship decision-making following conflict. That is, some people may interpret working through conflict to become *more* invested in a relationship, aligned with growth beliefs, because doing so requires investment of time and energy into one's relationship. But other people may interpret conflict as an indication that the relationship is not worth continuing, which aligns with destiny beliefs.

Knee and colleagues (2004) conducted two studies – one diary study and one cross sectional – that examined ITRs as moderators of the association between the experience of relationship conflict (i.e., disagreements between partners) and changes in how committed they felt to their relationship following the conflict. The results demonstrated that experiencing conflict was generally associated with lower commitment, but this association was weaker among participants who had a stronger growth belief compared to weaker growth beliefs. Further, their results suggested that growth beliefs were more beneficial under negative

relationship conditions; that is, stronger growth beliefs tended to buffer the negative effect that conflict had on commitment, especially when the issue remained unresolved (Study 1) and among participants who were less satisfied with their partner at the outset of the study (Study 2). The authors concluded that the meaning that stronger growth beliefs place on relationship conflict buffered against the decline in relationship commitment. They did not see this effect between conflict, commitment, and destiny beliefs. I argue that, if growth beliefs are contributing to people staying committed after conflict – even when the conflicts are not resolved and they are less happy with their partners as Knee and colleagues (2004) found – this could interact with the influence of higher investments in the relationship on commitment to prompt people continue with a current course of action (e.g., stay in the relationship) that may no longer be rewarding, rather than pursue alternative course of action (e.g., leave the relationship).

The authors acknowledged that this buffering effect may be maladaptive amongst people with stronger growth belief, particularly in the long run of their relationship. However, they suggested that this idealistic view that individuals with stronger (vs. weaker) growth beliefs may have towards their relationships may be beneficial in the shorter term, as demonstrated in other studies (e.g., Murray et al., 1996). Inspired by Knee and colleagues' (2004) results, to the extent that people with stronger growth beliefs interpret relationship conflicts as opportunities to overcome and bring relationship partners closer together, I predicted that these beliefs may make someone maintain commitment in the face of a relationship conflict or indication that the relationship is causing strain in the context of greater (vs. lesser) investment in the relationship, even when it may be better to choose an alternative option.

Overview of the Current Studies

Research on commitment and relationship maintenance has largely argued that people choose to stay the course when they consider their rewards and costs and then weigh those against expectations about one's current and alternative situations (e.g., Thibaut & Kelley, 1959). However, little research has considered the extent to which those judgements and expectations might be affected, such as by lay beliefs that they hold about relationships. I theorized that ITRs may shape how relationship investments are used to guide decisions about continuing with a course of action within a relationship or choosing an alternative, because of their impact on how people interpret relationship events. ITRs may impact what expectations people have of their relationship (i.e., *comparison level*, CL; Thibaut & Kelley, 1959) and, paired with the amount of relationship investment, shape how they interpret the alternative option (i.e., *comparison level alternative*, CL_{alt}; Thibaut & Kelley, 1959). ITRs may also be a lens through which people weigh the amount of relationship investments in their decision-making. For example, individuals with stronger growth beliefs may perceive high relationship investment as indicative of the amount of effort they have put into the relationship, and therefore desire to continue investing effort into their relationship or the current course of action within their relationship.

My research sought to address these identified gaps by testing a theoretically-derived prediction that ITRs could shape sensitivity to investment when guiding commitment-related decisions. Across five online experiments, I examined whether people's implicit theories moderate the role of relationship investment on people's relationship decisions to continue with a current course of action or choose an alternative one, and how people feel about those decisions. Specifically, I hypothesized that higher (vs. lower) investments would make someone more likely to endorse continuing with the current course of action (vs. pursuing an alternative one). Similarly, I predicted that stronger (vs. weaker) growth beliefs would make someone more likely

to endorse continuing with the current course of action (vs. pursuing an alternative one). Finally, I hypothesized that among participants with stronger (vs. weaker) growth beliefs, when there are higher (vs. lower) investments, they would be more likely to endorse continuing with the current course of action (vs. pursuing an alternative one). I intentionally did not advance hypotheses about destiny beliefs because of the lack of consistent effects compared to growth beliefs, as identified in past literature (e.g., Knee & colleagues, 2004). Therefore, all destiny results should be considered exploratory. A summary of the key variables, hypotheses, and conclusions can be found in Table 1.1.

To test these hypotheses, I operationalized ITRs as a chronic individual difference (Studies 1, 2, and 4) and I experimentally manipulated these beliefs (Studies 3 and 5). I also used a variety of different operationalizations of relationship investment such as high or low investment, either using investment size framing (i.e., Studies 3 and 5) or with specific sunk cost framing (i.e., Studies 1 and 2), as well as investments that were framed in the past or the future (i.e., Study 4). In each of my studies I developed hypothetical scenarios about a couple which described some details about the couple, investments they have made in the relationship, and describe a conflict that is happening. The role of the conflict was to indicate that there might be something about the status quo that is not working as well, thereby creating the context suitable to test my hypotheses about decisions to continue or choose an alternative. Sometimes the scenarios were written from a third person perspective (Studies 1, 2, and 3), other times they were written from the perspective of one of the partners in the couple (Studies 4 and 5). At the end of each scenario, participants were asked what advice they would give the couple based on what they read.

In my research, I conceptually defined my main outcome of interest as the decision to continue with a current course of action, or shift to an alternative course of action. In four out of five studies (i.e., Studies 1, 3, 4, and 5), I operationalized this outcome by examining people's decisions related to staying in or leaving a relationship. This type of decision was of interest because, compared to decisions that move a relationship forward (e.g., partners moving in together; Lindsay, 2000; Manning & Smock, 2005; Sassler, 2004; Stanley et al., 2006), breakup decisions are often a relatively drawn-out, deliberative process (e.g., Joel et al., 2018; Vanderdrift et al., 2009). Further, staying and leaving often both have their own set of advantages and disadvantages that the individual must consider, and they may feel conflicted (e.g., Joel et al., 2013; 2018; 2021). Decision outcomes, especially stay/leave decisions, can also differ in the amount of certainty either choice may provide. For example, choosing to stay typically produces a relatively certain outcome of what the near future would bring (e.g., the current romantic partner is already known), whereas choosing to leave often produces a variable outcome (e.g., one could end up with a better partner, a worse partner, or no partner). For this reason, in Study 2, I operationalized my main outcome as people's decision between two possible courses of action within a relationship to accomplish the same outcome (i.e., a decision about *how* a couple would get married, not *if* they did). These two types of operationalizations allowed me to examine different decisions that individuals may make in a relationship context, specifically when deciding what to do within a relationship, and when deciding whether to continue a relationship.

In all five studies, after the dichotomous main outcome variable, I assessed participants' positive and negative expectations of both possible outcomes. Higher endorsement of the outcome was demonstrated by more optimistic expectations (i.e., higher positive and lower

negative) about continuing with the current outcome, compared to choosing the alternative.

These outcome expectation measures were included because people tend to feel more optimistic about the success of outcomes they have invested towards (Arkes & Blumer, 1985), and I wanted to see whether ITRs would interact with investments and show the same effect. I measured both positive and negative expectations because of past research indicating ambivalence towards staying in and leaving a relationship (Joel et al., 2017; 2021).

All my studies asked participants to offer their advice romantic couples in hypothetical scenarios, which served as indirect measure of participants' own decision-making. This approach enabled the measurement of these decision-making processes within the duration of a single study (i.e., the short term) and allowed me to expand recruitment beyond people who are considering leaving their partners (e.g., Drigotas & Rusbult, 1992; Joel et al., 2017; Joel et al., 2018; Vanderdrift et al., 2009), which was particularly relevant for the studies that involved a stay or leave decision (Studies 1, 3, 4, and 5). As well, by using these hypothetical scenarios about another couple, I reduced the risk of participants experiencing negative outcomes or reactance as a result of participating (i.e., asking participants to think about breaking up with their own partner), while still being able to examine aspects of this decision-making process of interest.

Study 1

In Study 1, I investigated how ITRs shape how investments affect decision making within relationships. I measured ITRs and then asked participants to read a hypothetical scenario about a couple who were preparing for their wedding and then advise them on a decision about their upcoming marriage. Specifically, the scenario described one of the partners coming to the realization that they were unhappy in their current relationship and that their partner was further

from their ideal partner than desired. I varied whether the couple had made high or low financial investments in their wedding arrangements using a sunk cost approach. Participants were then asked to advise the couple to either to get married (i.e., stay together) or not (i.e., leave the relationship). In addition to this dichotomous outcome measure, I measured participants' positive and negative expectations of both outcomes.

I hypothesized that participants assigned to the *high investment condition* would be more likely to advise the couple to stay together (vs. leave), and would report more positive and less negative expectations associated with the couple staying together (vs. leaving), compared to participants assigned to the *low investment condition*. Similarly, I hypothesized that participants with stronger (vs. weaker) growth beliefs would be more likely to advise the couple to stay together (vs. leave) and would report more positive and less negative expectations associated with the couple doing so. Finally, my main hypothesis was that, among participants with stronger (vs. weaker) growth beliefs, those assigned to the *high investment condition* would be more likely to advise staying (vs. leaving), compared to those who were assigned to the *low investment condition*, and report more optimistic expectations associated with the couple staying together (vs. leaving). I did not advance any hypotheses about whether participants' destiny beliefs would also moderate this effect.

Method

Participants

Three hundred and ninety-nine participants were recruited for this online study through Wilfrid Laurier University's undergraduate participant pool and were compensated with partial course credit. Sixty-four participants were excluded because they did not complete the survey ($n = 17$), failed attention checks ($n = 30$), reported that they were not paying attention ($n = 3$), or

self-reported that their data should not be used due to poor quality ($n = 14$) resulting in a final sample of 335 participants. Most of the participants identified as women (85.6%) and as White (64.5%), and the average age was 19.99 years old ($SD = 4.57$). An overview of the sociodemographic characteristics of this sample can be found in Table 2.1. A power analysis in G*Power (Faul et al., 2009) indicated that I needed a minimum of 197 participants to detect a small-to-moderate effect size at 80% power; I aimed to exceed the minimum to allow for possible exclusions in this and all subsequent studies.

Procedure

Participants were asked to complete the Implicit Theories of Relationships Scale (Knee et al., 2003) by indicating how much they agreed with 22 statements about feelings towards romantic relationships on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale. Eleven items were associated with growth beliefs ($M = 5.14$, $SD = .60$, $\alpha = .69$; e.g., “A successful relationship evolves through hard work and resolution of incompatibilities.”) and 11 items were associated with destiny beliefs ($M = 3.78$, $SD = .84$, $\alpha = .84$; e.g., “A successful relationship is mostly a matter of finding a compatible partner right from the start.”).^{3,4} They were also asked other questions about their own romantic relationships, if applicable.⁵

³ In Study 1, as well as Studies 2 and 3, the internal consistency (i.e., Cronbach’s alpha reliability; Cronbach, 1951) of the growth belief subscale was low (i.e., $< .70$), which suggested that the items may not be consistently measuring the same construct as expected. Upon examining other papers that used this measure, the growth subscale almost always had a lower reliability than did the destiny subscale (e.g., Dailey et al., 2020; Finkel et al., 2007; Hui et al., 2012; Knee et al., 2003; Knee et al., 2004; Mattingly et al., 2019; Maxwell et al., 2017; Weigel et al., 2016), but the values were not typically as low as I observed in my first three studies. I discuss this limitation and possible explanations in the general discussion.

⁴ Domain general implicit theories (Levy et al., 1998) was also measured in Studies 1 to 3, using a scale of 1 (*strongly disagree*) to 9 (*strongly agree*) where higher scores indicated stronger incremental (vs. fixed) mindset. The scale had good reliability (S1: $\alpha = .91$; S2: $\alpha = .87$; S3: $\alpha = .82$) and the average score was 5.35 with a standard deviation of 1.42 in Study 1 (S2: $M = 5.37$, $SD = 1.32$; S3: $M = 5.48$, $SD = 1.41$). However, it was not central to the key research questions and hypotheses, therefore it was not examined throughout these studies.

⁵ For the purpose of another study, participants who reported that they were in a relationship were asked to answer questions about their current relationship, including ones that measured their relationship length, quality (Perceived Relationship Quality Component; Fletcher et al., 2000), commitment and investment size (Rusbult et al., 1998),

Following this, participants were randomly assigned to read one of two scenarios about a hypothetical couple. The scenario described a couple who was planning their wedding and one of the partners was coming to realize that the relationship was less fulfilling for them. Participants were randomly assigned to either the *low investment condition* or the *high investment condition*, which were inspired by Olivola's (2018) scenarios. Specifically, the scenario described that the couple had either paid \$2000 in non-refundable deposits towards their wedding (*low investment condition*) or had almost paid for their entire wedding in full, with just \$2000 remaining to pay off (*high investment condition*) which is all non-refundable. The full scenarios can be found in Appendix B.

At the end of the scenario, participants were asked to advise the partner on whether they should get married (i.e., stay) or not get married (i.e., leave) as well as report both their negative expectations (i.e., perceived risk and regret), and positive expectations (i.e., how happy they anticipate the couple will be) of the couple getting married or not.⁶ The risk and happiness questions were measured on a scale from 1 (*not at all*) to 5 (*extremely*), and the regret questions were measured on a scale from 1 (*definitely not*) to 5 (*definitely*). Next, participants provided demographic information and were asked to provide an open-ended description of what details from the scenario influenced the advice they offered the couple. Participants were then debriefed. A complete list of the measures used in all the studies can be found in Appendix A.

Results

Data Analytic Strategy

perceived partner fit (Franiuk et al., 2004), as well as uncertainty (Knobloch & Solomon, 1999) and turbulence (Knobloch, 2007). These measures were included in Studies 1, 2, and 3 but were not explored in this dissertation.

⁶ The fixed dichotomous response option offered the benefit of a single, final decision of participants (i.e., what advice they gave); however, it is possible that participants had mixed feelings towards both outcomes that the couple was faced with in the scenario. Therefore, by including a measure of affect, I could assess the individual and interactive effect of investments and ITRs on these affective responses and expectations and, in turn, offer a more nuanced understanding of the decision that participants made beyond the dichotomous option.

I cleaned, coded, and analyzed all the data using SPSS 28. After first computing descriptive statistics, I ran a series of binary logistic regression analyses to test my primary hypotheses that investment condition (categorical) and implicit theories (continuous) would influence the decision outcome (categorical). Next, I ran a series of hierarchical regressions to test my secondary hypotheses that investment condition (categorical) and implicit theories (continuous) would also influence the positive and negative outcome expectations measures (continuous). In all regression analyses, I entered dummy-coded main effects of investment condition (0 = Low Investment, 1 = High Investment), mean-centered growth beliefs, and mean-centered destiny beliefs into Step 1, the two-way interactions between investment condition and growth beliefs, and the two-way interaction between investment condition and destiny belief into Step 2.⁷

Descriptive Statistics

Random assignment to the investment conditions appeared to be successful and the assignment between conditions remained relatively equal following exclusions. That is, 172 participants (51.3%) were assigned to the low investment condition and 163 participants (48.7%) were assigned to the high investment condition. Across the sample, 21.2% advised the couple to stay together, and 78.8% advised them not to. This indicated that majority of the sample had a preference towards the couple choosing the alternative option (i.e., not getting married) over continuing with the current option (i.e., getting married). Figure 1 presents the percentage of participants who advised the couple to stay together (vs. leave) broken down by investment

⁷ Although it is possible for individuals to hold a combination of destiny and growth beliefs (Knee et al., 2003), I did not examine the interaction between growth and destiny beliefs, or include a three-way interaction between the two ITRs and investment condition. My hypotheses were focused on growth beliefs because, as noted, past literature lacks insight into how destiny beliefs might shape how investments impact relationship decisions in longer-standing relationships, so it did not make sense to predict interactions between these variables in my research.

condition. The descriptive statistics of the outcome expectation measures can be found in Table 2.2, and the risk and regret measures were averaged to create a separate item for negative expectations if they stayed together ($M = 3.45$, $SD = .81$, $r = .49$, $p < .001$), and another for negative expectations if they did not ($M = 3.04$, $SD = .79$, $r = .25$, $p < .001$). A table of the correlations between the continuous variables in the study can be found in Table 2.3. The descriptive statistics of each of the coded variables can be seen in Table 2.4.

Stay Versus Leave Decisions

One of my key dependent measures was a dichotomous measure of participants' advice for the couple described in the scenario to either get married (i.e., stay/continue with the current course of action; coded as 0) or do not get married (i.e., leave/pursue the alternative course of action; coded as 1). I conducted a binary logistic regression to determine whether ITRs and the investment condition interacted to influence the advice given. The results revealed that there were no significant main effects of investment condition, $OR = .81$, $\chi^2(1) = .62$, $p = .432$, 95% CI [.48, 1.37], growth beliefs, $OR = .81$, $\chi^2(1) = .87$, $p = .351$, 95% CI [.52, 1.26], or destiny beliefs, $OR = 1.09$, $\chi^2(1) = .26$, $p = .614$, 95% CI [.79, 1.49], on the advice participants gave to the couple. Further, the investment condition did not significantly interact with chronic growth beliefs, $OR = 1.04$, $\chi^2(1) = .006$, $p = .940$, 95% CI [.42, 2.53], but there was a marginally significant interaction with chronic destiny beliefs, $OR = 1.82$, $\chi^2(1) = 3.27$, $p = .071$, 95% CI [.95, 3.50].

Outcome Expectations

In addition to measuring whether participants advised the couple to stay together or not, I examined their expectations of how both decisions may affect the couple in the scenario going forward. Separate regression analyses were conducted to determine how implicit theories may

interact with investments to predict participants' negative expectations of staying or leaving, as well as the positive expectations of both outcomes. The results are presented by outcome in order to illustrate how participants were feeling – positively or negatively – towards each outcome and how that may differ based on investments and ITRs.

Expectations of Staying. For negative expectations of staying (i.e., getting married), there were no significant main effects of investment condition, $b = .04$, $se = .09$, $t(330) = .50$, $p = .621$, 95% CI [-.13, .22], growth belief, $b = -.01$, $se = .07$, $t(330) = -.07$, $p = .941$, 95% CI [-.15, .14], or destiny belief, $b = .08$, $se = .05$, $t(330) = 1.53$, $p = .128$, 95% CI [-.02, .19]. The hypothesized interaction between investment condition and growth belief was not significant, $b = -.09$, $se = .15$, $t(328) = -.57$, $p = .568$, 95% CI [-.38, .21], and neither was the interaction between investment condition and destiny belief, $b = .14$, $se = .11$, $t(328) = 1.33$, $p = .186$, 95% CI [-.07, .35].

For positive expectations of staying (i.e., getting married), there was no significant main effects of investment condition, $b = -.11$, $se = .10$, $t(329) = -1.10$, $p = .272$, 95% CI [-.31, .09], chronic growth belief, $b = .11$, $se = .09$, $t(329) = 1.27$, $p = .204$, 95% CI [-.06, .28], or chronic destiny belief, $b = -.06$, $se = .06$, $t(329) = -.93$, $p = .351$, 95% CI [-.18, .06]. Once again, contrary to what I predicted, the interaction between investment condition and growth belief, did not significantly predict how happy participants expected the couple to be if they stayed together, $b = -.27$, $se = .17$, $t(327) = -1.57$, $p = .118$, 95% CI [-.60, .07], nor did the interaction with destiny belief, $b = -.16$, $se = .12$, $t(327) = -1.33$, $p = .185$, 95% CI [-.40, .08].

Expectations of Leaving. For negative expectations of the couple ending their relationship (i.e., not getting married), as predicted, there was a marginally significant effect of investment condition, $b = .17$, $se = .09$, $t(330) = 1.96$, $p = .051$, 95% CI [-.001, .34]. That is,

participants assigned to the higher investment condition anticipated that the couple would feel more risk and regret if they chose to end the relationship, compared to those assigned to the lower investment condition. Again, there were no significant main effects of growth belief, $b = .12$, $se = .08$, $t(330) = 1.67$, $p = .096$, 95% CI [-.02, .26], or destiny belief, $b = -.001$, $se = .05$, $t(330) = -.02$, $p = .985$, 95% CI [-.10, .10]. Contrary to my hypothesis, the two-way interaction between the investment condition with growth belief was not statistically significant, $b = .04$, $se = .15$, $t(328) = .28$, $p = .779$, 95% CI [-.25, .33], and neither was the interaction between investment condition and destiny belief, $b = -.07$, $se = .10$, $t(328) = -.63$, $p = .527$, 95% CI [-.27, .14]. For positive expectations of ending the relationship, there were no significant main effects of the investment condition or chronic ITRs, all $ps > .272$, and, again, there were no significant two-way interactions on these expectations, all $ps > .111$.

Exploratory Analyses of Coder-Rated “Focus” of Decision Making

For exploratory purposes, participants’ open-ended descriptions of the aspects that influenced their choices were coded by an independent, trained undergraduate student coder who was unaware of the purpose of this study.⁸ The coder was asked to read each response and provide a rating for each response on several prompts using a scale where 0 = *not at all considered*, 1 = *somewhat considered*, and 2 = *strongly considered* based on what the participant discussed. When analyzed, these variables were recoded to be 1 = *not at all considered*, 2 = *somewhat considered*, 3 = *strongly considered* to ease interpretation. These are referred to as “focus” variables throughout. The prompts included the *past* (e.g., the participant was thinking about what the target had already done, what has already taken place), the *future* (e.g., ... about

⁸ The same undergraduate student research assistant completed the coding in Studies 1, 2, and 3. The limitation of having only one coder, compared to multiple coders, is that I was unable to calculate inter-rater reliability as a best-practice. For this reason, in addition to these being exploratory analyses, the reported results with these coded variables in these first three studies should be interpreted with caution.

what might happen in the future to the target or in the relationship), *money* (e.g., ... about money invested in the relationship or scenario), *emotions* (e.g., ... about emotions in the relationship or scenario), *effort* (e.g., ... about effort invested in the relationship or scenario), and *time* (e.g., ... about time invested in the relationship or scenario). Due to the open-ended nature of this question in the study, it was possible that participants did not discuss all these topics, or any of them. Thus, some participants had ratings associated with more than one theme.

I first ran a series of hierarchical linear regressions to examine if investment condition and ITRs influenced what participants focused on in similar ways as they did (or did not) for the main outcome measures (i.e., stay vs. leave decision, and the outcome expectations). For the *past focus* variable, investment condition was the only significant predictor. Specifically, participants who were assigned to the high investment condition considered the past more than did participants assigned to the low investment, $b = .64$, $se = .08$, $t(330) = 7.66$, $p < .001$, 95% CI [.47, .80]. This finding could be attributed to the investments that were referred to in the scenario being already invested (i.e., were based in the past). No other main effects or interaction terms predicted past focus, all other $ps > .194$. For *future focus*, there was a significant main effect of destiny belief, such that, a stronger destiny belief predicted less consideration of the future, $b = -.14$, $se = .05$, $t(330) = -2.74$, $p = .006$, 95% CI [-.24, -.04]. Otherwise, there were no other significant main effects or interaction terms that predicted future focus, all other $ps > .261$.

There were no significant main effects or interaction terms that predicted *money focus*, all $ps > .115$. For *emotions focus*, there was a significant main effect of growth belief, such that, a stronger growth belief predicted less consideration of emotions, $b = -.14$, $se = .06$, $t(330) = -2.23$, $p = .027$, 95% CI [-.26, -.02]. Prior literature does not say much about how these beliefs relate to emotions experienced in or towards relationships, but this exploratory finding suggested that

emotions might matter less in their decision-making compared to other information. Otherwise, there were no other significant main effects or interaction terms that predicted emotions focus, all other $ps > .165$.

For *effort focus*, there was a significant main effect of destiny belief, which revealed that a stronger destiny belief predicted less consideration of effort, $b = -.13$, $se = .05$, $t(330) = -2.62$, $p = .009$, 95% CI [-.23, -.03]. This result might suggest that participants with a stronger destiny belief did not perceive this couple as “meant to be”, or that the relationship would last particularly long (Knee, 1998; Knee et al., 2003). There was also a marginally significant main effect of growth belief, such that that a stronger growth belief predicted somewhat more consideration of effort, $b = .14$, $se = .07$, $t(330) = 1.97$, $p = .050$, 95% CI [.00, .28], but this should be interpreted with caution. This pattern of results aligned with past literature that has found that individuals with a stronger growth belief tend to believe that challenges in a relationship can be overcome by putting in effort (Franiuk et al., 2004). No other main effects or interaction terms were significant for effort focus, all other $ps > .197$. There were no significant main effects or interaction terms that predicted *time focus*, all $ps > .220$.

Next, I examined how well these coded variables predicted the key dependent measures: the advice participants give to participants (i.e., decision), and their expectations of both options. Separate binary logistic regressions were conducted to test each focus variable as a predictor of our dichotomous decision dependent measure (0 = Stay, 1 = Leave). All the coded variables significantly predicted the advice participants gave to the couple, except for the future and time focus variables, and past focus was right at the cut-off point of significance (see Table 2.5). That is, when there was stronger consideration of the past, participants were .72 times less likely to advise the couple to leave (i.e., not get married), rather than stay (i.e., get married). The same

pattern existed for effort focus. When participants reported stronger consideration of money, they were 1.67 times more likely to advise the couple to leave (i.e., not get married), than to stay (i.e., get married). The direction of this effect of money focus was unexpected because the manipulation was focused on financial investment, and higher financial investment was expected to be associated with advising the couple to stay together. However, this effect was collapsed across investment condition. A stronger consideration of emotions also predicted advising the couple to leave, which make sense because the scenario mentioned that the partner would not be as happy as she could be if she were to stay in the current relationship, and relationship satisfaction is among one of the main predictors of commitment (Rusbult et al., 1998).

I then ran linear regressions to test whether the focus variables predicted the outcome expectation dependent measures (see Table 2.6). For negative expectations of staying, money, emotions, and effort were significant predictors. Specifically, the more that participants thought about money or emotions, the more negative expectations they had for staying. Whereas the more participants thought about effort, the less negative expectations they had about the couple staying together. For negative expectations of leaving, past and effort were significant predictors, such that the more that participants considered the past or effort, the more negative expectations they had about leaving. Money and emotions both had a marginally significant negative relationship with negative expectations of leaving.

For positive expectations of staying, money, emotions, and effort were all significant predictors again such that the more participants thought about money or emotions, the lower their positive expectations about staying were. Whereas the more they thought about effort, the more positive expectations they had about staying. Finally, for positive expectations about leaving, past, money, emotions, and effort once again had an effect, but only past and emotions

reached statistical significance. Specifically, the more participants thought about the past, the lower their positive expectations were towards leaving. Whereas, the more participants thought about emotions, the more positive expectations they had about leaving the relationship. This made sense because the scenario described that the target would not feel happy in her marriage if she got married. Overall, these exploratory analyses offered some insight into what guided participants' decisions and outcome expectations, and provided some suggestive findings that past investments, effort, and emotions were particularly meaningful in shaping their decisions, even though the direction of the effects are a bit varied.

Study 1 Discussion

Study 1 was the first attempt at testing the hypothesis that ITRs and relationship investments may interact to impact decision making in relationship scenarios. I designed two scenarios that illustrated someone who had higher or lower financial investments into their relationship, experienced a conflict (i.e., found their relationship to be less fulfilling), and then was deliberating whether they should stay in or leave the relationship. Participants were asked to report what advice they would give the couple – to continue with the current course of action (i.e., stay/get married) or to choose an alternative course of action (i.e., leave/do not get married) – as well as their positive and negative expectations for the future of the couple's relationship for both outcomes.

The results clearly indicated that participants endorsed leaving the relationship; that is, almost 80% of the sample advised the couple to end their relationship, regardless of whether they were assigned to the high or low investment scenario. Further, contrary to my hypotheses, there was no significant main effect of the investment condition, growth, or destiny beliefs on the dichotomous or continuous outcome measures, with one exception: participants in the higher

investment condition reported greater negative expectations of leaving than did participants in the lower investment condition. This one significant finding was aligned with my hypotheses, it related to past literature that demonstrated that investments can increase commitment by increasing the costs of the relationship ending (Rusbult, 1980a), which could be why participants felt it was riskier or that they would feel more regretful about leaving the relationship.

The presence of a main effect of investment condition on negative expectations offered some support that my hypotheses were worth exploring further, but the lack of any other significant results in my main analysis indicated that I should change the scenarios. This related to some limitations of Study 1 that may have contributed to the lack of significant differences across my outcome measures. First, regardless of which investment condition they were assigned to, or what growth or destiny beliefs they had, participants overwhelmingly advised the couple to not get married (vs. get married). This lack of variability in responses overall could have made it more difficult to capture effects of the investment condition and the ITRs. Related to this, there seemed to be some ways to improve the scenario, such as softening the language around the emotions that the partner(s) in the scenario were feeling (i.e., relationship [dis]satisfaction) to better isolate the investment size in the scenario. For example, the phrase, “Over time, Kelsey has realized that her relationship with Mark will never fully be what she wants it to be.” may have been too strong of language and could have reduced the possibility of people advising the couple to get married. This possibility could be particularly true among participants with stronger growth beliefs because the chance of improvement through investing effort might be limited. The possibility that the negative emotions experienced by the partner were too salient and thereby prompted participants to advise the couple to not get married was supported by the emotion focus exploratory analyses. Another limitation was that the total cost of the wedding was not

mentioned in the scenarios; therefore, it is possible that participants may have had different totals in mind, and perhaps undergraduate students were less aware of what weddings can cost if they are not married themselves, compared to an older adult sample. I wonder if the scenario said that the total cost of the wedding was \$20,000, for example, if it would have impacted my results, particularly depending on the investment condition they were assigned to.

Study 1 and Study 2 were conducted very close in time to one another, so unfortunately not all of the limitations identified were able to be addressed in Study 2. Indeed, Study 2 had a very similar procedure and materials to Study 1, with just two main ways that the scenarios differed were: first, rather than the outcomes being drastically different and the alternative involving uncertainty (i.e., either resulting in staying with current partner, or leaving current partner), I investigated how investments and ITRs may affect decisions where the two options still led to the same outcome (i.e., the couple remained together regardless). Second, the scenario was updated to make the relationship strain more apparent to offer greater control than Study 1.

Study 2

In Study 2, I investigated how investments and ITRs affected decision making within relationships, that is, the couple remained together and the decision led to the same outcome (i.e., getting married). Like Study 1, I measured ITRs and then asked participants to read a hypothetical scenario about a couple who was preparing for their wedding and they were asked to advise the couple on a decision. The scenario in Study 2 described that planning the wedding was causing tension between the partners, and I varied whether the couple had made either high or low financial investments (i.e., sunk costs) in their wedding arrangements the same way as Study 1. Participants were then asked to advise the couple to either proceed with the planned wedding or elope, two options that ultimately resulted in the same outcome (i.e., the couple

becoming married). Importantly, though, only one of the options could help relieve the relationship tension (i.e., elope) whereas the other did not (i.e., proceed with the planned wedding). In addition to this dichotomous outcome measure, I assessed measures of participants' positive and negative expectations of both options.

I hypothesized that participants assigned to the *high investment condition* would be more likely to advise the couple to proceed with planned wedding (vs. elope) which represented continuing with the current course of action, and would also report more optimism (i.e., higher positive expectations and lower negative ones) associated with the couple doing so, compared to participants assigned to the *low investment condition*. Likewise, I hypothesized that participants with stronger (vs. weaker) growth beliefs would be more likely to advise the couple to proceed with planned wedding (vs. elope) and would report more optimistic expectations associated with the couple doing so. Finally, my main hypothesis was that, among participants with stronger (vs. weaker) growth beliefs, those assigned to the *high investment condition* would be more likely to advise the couple to proceed with planned wedding (vs. elope), compared to those who were assigned to the *low investment condition*, and report more optimistic expectations associated with this outcome. I did not advance any hypotheses about whether participants' destiny beliefs would also moderate this effect.

Method

Participants

Three hundred and eighty-eight participants were recruited for this online study through Wilfrid Laurier University's undergraduate participant pool and were compensated with partial course credit. Sixty-six participants were excluded because they did not complete the survey ($n = 13$), failed attention checks ($n = 34$), or otherwise reported that they were not paying attention (n

= 19), which resulted in a final sample of 322 participants. Most of the participants identified as women (84.5%) and as White (62%), and the average age was 19.69 years old ($SD = 3.05$). An overview of the sociodemographic characteristics of this sample can be found in Table 3.1.

Procedure

Like Study 1, participants were asked to complete a measure of their growth ($M = 5.24$, $SD = .58$, $\alpha = .66$) and destiny beliefs ($M = 3.85$, $SD = .85$, $\alpha = .83$; Knee et al., 2003). Following this, participants were randomly assigned to read one of two scenarios about a hypothetical couple. This scenario described an engaged couple that was experiencing conflict over planning their impending wedding and were considering elopement as an alternative option. In this study, I manipulated the amount of financial investment the couple had made in their wedding plans. Half the participants were randomly assigned to the *low investment condition*, where they read that couple had made \$2000 worth of non-refundable deposits towards their wedding. The other half of participants were assigned to the *high investment condition* and were told that the couple had paid for nearly the entire wedding and had just \$2000 left to pay.

At the end of the scenario, participants were asked to advise the couple on whether they should continue with their current course of action (i.e., have the wedding they had been planning) or opt for an alternative that would reduce the current strain (i.e., elope) but lead to the same outcome (i.e., getting married). The full scenarios can be found in Appendix C. As in Study 1, participants were asked to report on both their negative and positive expectations of both outcomes. Next, participants provided demographic information and were asked to provide an open-ended description of what details from the scenario influenced the advice they offered the couple. Participants were then debriefed.

Results

Data Analytic Strategy

I cleaned, coded, and analyzed all the data using SPSS 28, and followed the same data analytic strategy that was outlined in Study 1.

Descriptive Statistics

Random assignment to the investment conditions appeared to be successful and the assignment remained relatively equal following exclusions: 168 participants (52.2%) were assigned to the low investment condition and 154 participants (47.8%) were assigned to the high investment condition. Across the sample, approximately 33% advised the couple to proceed with the planned wedding, and approximately 67% advised them to elope. This indicated that majority of the sample preferred the couple choosing the alternative option (i.e., eloping) over continuing with the current option (i.e., planned wedding). Figure 2 presents the percentage of participants who advised the couple to have their wedding as planned (vs. elope) broken down by investment condition. The descriptive statistics for the outcome expectation measures can be found in Table 3.2, and analyses included the averaged risk and regret if they proceed with the wedding they have been planning ($M = 2.95$, $SD = .71$, $r = .32$, $p < .001$), and the averaged for risk and regret if they elope ($M = 2.73$, $SD = .86$, $r = .43$, $p < .001$). Table 3.3 contains the correlations between the continuous variables measured in the study.

Planned Wedding Versus Elope Decisions

One of the key dependent measures was a dichotomous variable that represented participants' advice for the couple to either continue to have the wedding they were planning (coded as 0) or elope (coded as 1). I conducted a hierarchical binary logistic regression to determine whether ITRs and the investment condition interacted to influence the advice given. There was a significant main effect of investment condition such that, consistent with my

hypothesis, participants in the high investment condition were .40 times less likely to advise the couple to elope (vs. continue with the planned wedding) than were participants assigned to the low investment condition, $OR = .40$, $\chi^2(1) = 13.82$, $p < .001$, 95% CI [.25, .65]. There were no significant main effects of chronic growth beliefs, $OR = .75$, $\chi^2(1) = 1.85$, $p = .174$, 95% CI [.49, 1.14], or destiny beliefs, $OR = .84$, $\chi^2(1) = 1.58$, $p = .209$, 95% CI [.63, 1.11]. Further, contrary to my hypothesis, investment condition did not significantly interact with either growth beliefs, $OR = 1.40$, $\chi^2(1) = .62$, $p = .430$, 95% CI [.61, 3.26] in predicting participants' decision making. The interaction with investment condition and destiny beliefs also did not predict their decision, $OR = 1.03$, $\chi^2(1) = .008$, $p = .931$, 95% CI [.58, 1.80],

Outcome Expectations

To examine participants' positive and negative expectations of both potential outcomes, I ran separate hierarchical regression analyses to determine how implicit theories may interact with the investment manipulation in predicting each of these variables.

Expectations of Planned Wedding. For negative expectations of proceeding with the planned wedding, there was a significant main effect of investment condition, $b = -.22$, $se = .08$, $t(318) = -2.80$, $p = .005$, 95% CI [-.37, -.07]. That is, consistent with my hypothesis, when participants were assigned to the high investment condition, they tended to report lower negative expectations of proceeding with the planned wedding, compared to participants assigned to the low investment condition. There were no significant main effects of growth belief, $b = -.10$, $se = .07$, $t(318) = -1.47$, $p = .143$, 95% CI [-.23, .03] or destiny belief, $b = .06$, $se = .05$, $t(318) = 1.35$, $p = .177$, 95% CI [-.03, .15]. Contrary to the hypothesis, the two-way interaction between the investment condition with growth belief was not significant, $b = -.01$, $se = .14$, $t(316) = -.05$, $p = .958$, 95% CI [-.28, .27]. The two-way interaction between investment condition and destiny

belief was also not statistically significant, $b = -.03$, $se = .09$, $t(316) = -.37$, $p = .711$, 95% CI [- .22, .15].

For positive expectations of proceeding with the planned wedding (i.e., continuing with current course of action), the main effect of investment condition was non-significant, $b = .16$, $se = .11$, $t(316) = 1.40$, $p = .161$, 95% CI [- .06, .38]. There was a significant main effect of growth belief, such that a stronger (vs. weaker) a participant's growth belief was, the happier they expected the couple would be if they proceeded with the planned wedding, $b = .20$, $se = .10$, $t(316) = 2.13$, $p = .034$, 95% CI [.02, .39]. The main effect of destiny belief was non-significant, $b = .02$, $se = .07$, $t(316) = .31$, $p = .755$, 95% CI [- .11, .15]. Once again, the hypothesized two-way interaction between investment condition and growth belief was non-significant, $b = -.08$, $se = .20$, $t(314) = -.40$, $p = .690$, 95% CI [- .47, .31]. The interaction between investment condition and destiny belief was also non-significant, $b = -.01$, $se = .13$, $t(314) = -.05$, $p = .958$, 95% CI [- .27, .25].

Expectations of Eloping. For negative expectations of eloping, there was a significant main effect of investment condition, such that being in the higher investment condition predicted higher negative expectations of eloping (i.e., choosing the alternative option), compared to being in the lower investment condition, $b = .35$, $se = .10$, $t(318) = 3.74$, $p < .001$, 95% CI [.17, .54]. Again, there were no significant main effects of growth belief, $b = -.03$, $se = .08$, $t(318) = -.36$, $p = .720$, 95% CI [- .19, .13], or destiny belief, $b = -.01$, $se = .06$, $t(318) = -.10$, $p = .920$, 95% CI [- .12, .10]. Once again, there were no statistically significant two-way interactions of the investment condition with growth belief, $b = .02$, $se = .17$, $t(316) = .12$, $p = .906$, 95% CI [- .31, .35], or with destiny belief, $b = -.06$, $se = .11$, $t(316) = -.56$, $p = .573$, 95% CI [- .26, .16].

For positive expectations of eloping, there was a marginally significant effect of investment condition, such that being in the higher investment condition predicted slightly lower positive expectations of eloping (i.e., choosing the alternative option), compared to participants in the lower investment condition, $b = -.19$, $se = .11$, $t(317) = -1.73$, $p = .085$, 95% CI [-.40, .03]. Similar to many of the other outcomes, there were no significant main effects of growth belief, $b = -.09$, $se = .09$, $t(317) = -.98$, $p = .328$, 95% CI [-.27, .09], or destiny belief, $b = .01$, $se = .06$, $t(317) = .09$, $p = .928$, 95% CI [-.12, .13], and neither of the two-way interactions were significant ($ps > .462$).

Exploratory Analyses of Coder-Rated “Focus” of Decision Making

The same approach described in Study 1 was used in Study 2 to code participants' open-ended descriptions of what they believe influenced their decisions. The descriptive statistics of each of the coded variables can be found in Table 2.4. For the *past focus* variable, there was a significant interaction between investment condition and destiny beliefs, such that, when in the high investment condition, participants with stronger destiny beliefs considered the past slightly more than did participants with weaker destiny beliefs, $b = .20$, $se = .10$, $t(316) = 2.02$, $p = .044$, 95% CI [.005, .40]. The reverse occurred among participants in the low investment condition. No other main effects or interaction terms predicted past focus, all other $ps > .356$. For *future focus*, there were no significant main effects or interaction terms, all $ps > .121$. For *money focus*, there was a significant main effect of investment condition, such that, among participants who were assigned to the high investment condition they tended to report considering money more when making their decision higher consideration of money to inform their decision, compared to those assigned to the low investment condition, $b = .34$, $se = .10$, $t(318) = 3.42$, $p < .001$, 95% CI [.15, .54]. This finding can likely be attributed to the fact that monetary investments were made salient

in this study as part of my experimental manipulation. There was also a significant interaction between investment condition and destiny beliefs, $b = .24$, $se = .12$, $t(316) = 2.03$, $p = .043$, 95% CI [.01, .47]. That is, when assigned to the high investment condition, participants with stronger destiny beliefs reported considering money slightly more than did participants with weaker destiny beliefs. The reverse occurred among participants in the low investment condition. No other main effects or interaction terms predicted money focus, all other $ps > .294$.

For *emotions focus*, there was a significant main effect of destiny belief, such that, the stronger a participant's destiny belief was, the less they considered emotions when deciding what advice they were going to give the couple in the scenario, $b = -.11$, $se = .05$, $t(318) = -2.16$, $p = .032$, 95% CI [-.20, -.01]. Otherwise, there were no other significant main effects or interaction terms that predicted emotions focus, all other $ps > .104$. For *effort focus*, there were no significant main effects or interaction terms, all $ps > .088$. For *time focus* there was a significant interaction between investment condition and destiny beliefs, $b = .31$, $se = .10$, $t(316) = 3.04$, $p = .003$, 95% CI [.11, .51]. Once again, the results revealed that, when assigned to the high investment condition, participants with stronger destiny beliefs considered the time more than participants with weaker destiny beliefs. The reverse occurred among participants in the low investment condition. Otherwise, were no other significant main effects or interaction terms that predicted time focus, all other $ps > .251$.

Next, as described in Study 1, I examined how well these coded variables predicted the key dependent measures: the advice participants gave to participants, and their expectations of both options. All the coded variables significantly predicted the advice participants gave to the couple, except for future focus (see Table 3.4 for the results of the binary logistic regressions). That is, when there was stronger consideration of the past, participants were .58 times less likely

to advise the couple to elope, rather than proceed with the planned wedding. The same pattern existed for money, effort, and time. These exploratory results provided further support that things that can be invested, such as money, effort, and time, in the past is associated with committed-related decisions. These results were also consistent with the observed relationship that investment size had on the advice participants gave to the couple in my main analyses. In contrast, when participants reported stronger consideration of emotions, they were 2.71 times more likely to advise the couple to elope than to proceed with the planned wedding. This result was likely due to the emotions of the couple being quite salient in the scenario (i.e., the stress that the wedding planning was causing them).

Finally, I conducted linear regression analyses to test whether or not the focus variables predicted the outcome expectation dependent measures (see Table 3.5). Specifically, the more participants considered the target's past, the lower their negative expectations were of the target proceeding with the planned wedding, and the higher their negative expectations of eloping, although this was marginally significant. Likewise, the more that participants considered the target's past, the lower their positive expectations of eloping. Past consideration did not significantly predict positive expectations of the planned wedding. As well, future consideration did not significantly predict any of the outcome expectations. Taken together, the marginal effect of past focus, and the lack of an effect of future focus in Study 2, suggested that when people may have been attending to past investments to a greater extent, which seemed to predict greater preference for staying with the current (vs. alternative) option. Although these were exploratory analyses and these results could be considered sunk cost thinking and aligned with my theorizing.

Study 2 Discussion

Overall, Study 2 provided partial support for my hypotheses. As predicted, investment size did indeed affect participants' willingness to maintain the status quo, as those in the high investment group were more likely to advise the couple to continue to plan the wedding that was a source of strife (versus advising them to elope) than were participants in the low investment group. Critically, however, the data did not support my primary prediction that ITRs would moderate the influence of investments relationship decision-making or any positive or negative expectations of the decision outcomes.

Related to this, my other hypothesis that participants in the high investment condition would perceive proceeding with the planned wedding (vs. eloping) more positively than negatively was mostly supported: participants in the high (vs. low) investment condition reported significantly lower negative expectations of the planned wedding, but there were no significant differences on positive expectations. Further, participants in the high (vs. low) investment condition viewed eloping less favourably than proceeding with the planned wedding, but there were again no significant effects on positive expectations of this outcome. Contrary to my hypotheses, though, growth beliefs did not seem to have a meaningful effect on the decisions participants were making or their expectations of them. This suggests that these beliefs are not associated with commitment-related decisions as I predicted based on prior research demonstrating a greater desire among individuals with stronger growth beliefs to maintain relationships (e.g., Franiuk et al., 2002; 2004; Knee et al., 2004; Santucci et al., 2021). There was one exception, however, such that participants with stronger (vs. weaker) growth beliefs believed that the couple would be happier if they proceeded with the planned wedding (i.e., continuing with the current action), which aligned with my theorizing. This positive perception of continuing with the current action could relate to the tendency of individuals with stronger

growth beliefs to view overcoming obstacles as a way for partners to grow closer together (e.g., Knee et al., 2003; 2004). Consistent with these analyses, the correlation matrix revealed that the only outcome expectation that growth beliefs was correlated with was the positive expectations of the planned wedding, further suggesting that these beliefs do not play as strong of a role in informing commitment-related outcomes or expectations related to them.

Overall, the significant effect of investments on advising the couple to continue with the current course of action (vs. the alternative one) offered additional support to the existing literature that the sunk cost decision-making occurs in relationship contexts (e.g., Coleman 2009; Goodfriend & Agnew, 2008; Rego et al., 2018). Further, higher investments also contributed to viewing the current option more positively and the alternative option more negatively, as found in Arkes and Blumer's (1985) research. As well, these investment effects were consistent with Investment Model research and provided further support that higher investments can guide someone towards committing further to the current option, rather than choosing an alternative (e.g., Le et al., 2010; Rusbult et al., 1998).

There are some limitations of Study 2. Like Study 1, the reliability of the growth belief scale was low in Study 2, which may or may not be related to the lack of effect that emerged for this belief. Additionally, it is possible that certain details provided in the scenario may have unintentionally dampened my ability to detect my hypothesized effect. First, overall, participants may have perceived that the conflict would be short-lived because the wedding planning (the cause of the conflict) had a clear end point (i.e., wedding planning would be finished once they are married), thereby making the conflict seem less severe and seemly resolvable. Alternatively, being unable to plan a wedding without it causing severe relationship strain could have been perceived as a sign that the couple had bigger relationship problems. Nonetheless, most

participants advised the couple to elope which suggested that they considered it a worthwhile solution to the conflict described in the scenario.

It is also worth acknowledging that using elopement as an alternative option, and focusing on the benefits to the couple's well-being, could be considered a narrow and individualistic view towards weddings. That is, weddings are typically a big occasion for friends and family, just as much as it is for the couple, and I did not provide any information in the scenario about how their friends and family might feel about the couple choosing to elope. Indeed, although eloping would have relieved the relationship tension for the couple, and perhaps that was why most participants advised them to elope, this decision could have caused significant strain in other relationships, such as with their parents. With that being said, the scope of my research was to test the hypothesis that ITRs and investments influence decision making; therefore, I believe that it was advantageous to not include the feelings of other people in the scenario, as I think that would have made it even more challenging to isolate my hypothesized effect. If I was trying to explain as much variance of what predicted the decision, then it would have made sense to account for how close others felt because that would likely be something people consider in real-world circumstances. With these limitations in mind, Studies 3-5 examined more general stay/leave decisions in romantic relationships by using scenarios depicting dating couples.

Study 3

In Study 3, I continued my investigation of the impact of ITRs in shaping how investments guide decision making in relationships in an experimental study that operationalized both my independent and dependent variables in different ways than in Studies 1 and 2. First, rather than measuring chronic ITRs, I manipulated these beliefs within my scenario that

described a couple and their current circumstances, in addition to the investment manipulation. Due to the ITRs manipulation being embedded in my scenarios, I had to alter the lay beliefs held by the *couple* about their relationship through the way that the couple described why they are together and how they navigate problems in their relationship (i.e., the couple was meant to be, or they worked to grow together). Therefore, Study 3 tested a novel way to manipulate the ITRs because an individual's *own* growth or destiny beliefs are conventionally manipulated using articles that prompt someone to more strongly endorse either growth or destiny beliefs (e.g., Chiu et al., 1997; Franiuk et al., 2004; Maxwell et al., 2017). Second, in Study 3 I adopted a broader view of investments, compared to the focus on financial investments in Studies 1 and 2. By including various types of investments the couple had made (e.g., emotional, effort, etc.) in their relationship, or lack thereof, this investment size manipulation aligned more closely with Investment Model theorizing (e.g., Rusbult, 1980a; Goodfriend & Agnew, 2008) than Sunk Cost theorizing (e.g., Arkes & Blumer, 1985; Olivola, 2018). Finally, I returned to using stay/leave decisions to operationalize continuing with a current course of action or switching to an alternative one, respectively, for the remainder of my studies to examine these decisions within dating couples. I also introduced an attractive alternative to my leave option (i.e., an alternative partner that the person in the scenario could have if they left their current relationship) to further mitigate the influence of the progression bias (Joel & MacDonald, 2021) because this offered people who may not want to be single (e.g., Spielmann et al., 2013) another opportunity to be in a couple. As in my previous studies, I used a dichotomous outcome measure of the advice participants would give the couple and I included measures of participants' positive and negative expectations of both options. I added in a measure of future time investment in the relationship as another way of measuring continuing with the current course of action, like what Rego and

colleagues (2018) used in their research, to see if greater prior investments predicted intentions to invest greater investments into the status quo in the future.

I hypothesized that participants assigned to the *high investment condition* (vs. those assigned to the *low investment condition*) would be more likely to advise the couple to stay in the relationship (i.e., continue with the current course of action), rather than leave it (i.e., change to an alternative course of action), and would report more optimistic expectations of doing so. I also hypothesized that participants assigned to the *growth condition* would be more likely to advise the couple to stay in the relationship (vs. leave it), and report more optimistic expectations associated with the couple doing so, compared to those assigned to the *destiny condition*. Finally, my main hypothesis was that, among participants assigned to the *growth condition* (vs. the *destiny condition*), those assigned to the *high investment condition* would be more likely to advise the couple to stay together (vs. leave), compared to those who were assigned to the *low investment condition*, and report more optimistic expectations associated with this outcome.

Method

Participants

Three hundred and ninety-six participants were recruited for this online study through Wilfrid Laurier University's undergraduate participant pool and were compensated with partial course credit. Nineteen participants were excluded because they did not complete the survey ($n = 2$) or otherwise reported that they were not paying attention ($n = 17$) resulting in a final sample of 377 participants. Most participants identified as women (72.4%) and as White (60.2%), and the average age was 20.54 years old ($SD = 4.36$). An overview of the sociodemographic characteristics of this sample can be found in Table 4.1.

Procedure

The procedure was largely the same as used in Study 2, including the measure of participants' growth ($M = 5.11$, $SD = .63$; $\alpha = .70$) and destiny beliefs ($M = 3.85$, $SD = .86$; $\alpha = .84$; Knee et al., 2003). Participants were randomly assigned to one of four scenarios which corresponded to the following conditions: destiny belief/low investment, growth belief/low investment, destiny belief/high investment, or growth belief/high investment. The scenario used in Study 3 described a couple, Emily and Ben, and their relationship. For example, the scenario described that over the years they have been together, they either have had many experiences together, gone on trips, purchased a house and more (*high investment condition*) or their friends had been doing these things and they did not feel the need to do them (*low investment condition*). The scenario also described that the couple either believed their relationship is what it is because they have invested in each other and putting in the effort to make things work (*growth condition*) or because they are each other's soul mate and meant to be together (*destiny condition*). The scenario introduced an attractive romantic alternative, James, and the participants were asked to indicate what advice they would provide to Emily, namely, choose to advise her to stay on her current course and "Continue her relationship with Ben" or instead to pursue an alternative course and "Break-up with Ben and pursue a relationship with James." The full scenarios can be found in Appendix D.

After the scenario, participants were asked to provide their positive expectations of continuing ($M = 3.09$, $SD = .93$) and ending ($M = 3.25$, $SD = .85$) the relationship, as well as their negative expectations of continuing ($M = 2.97$, $SD = .83$, $r = .38$, $p < .001$) and ending the relationship ($M = 3.59$, $SD = .74$, $r = .39$, $p < .001$). Next, to assess how much more time Emily should invest in her current relationship, using a slider scale, participants were asked to indicate whether she should invest "no time" (0) or "a lot of time" (100) in the in the relationship. Higher

scores indicated that she should continue to invest more in the relationship ($M = 67.51$, $SD = 25.23$). After this, because I used a novel method of manipulating ITRs, participants completed an ITR manipulation check which asked them to select which of the two sentences provided they would you use to best describes Emily and Ben's feelings about what has made their relationship successful? Those options were "they believe they are each other's soul mate" and "they believe that relationships involve investing effort in each other." Finally, participants provided demographic information and responded to an open-ended question asking them about what details from the scenario they considered when making their decision.

Results

Data Analytic Strategy

I cleaned, coded, and analyzed all the data using SPSS 28 and followed a similar data analytic strategy as in previous studies. On the first step of a hierarchical regression analysis, I entered dummy coded variables representing investment condition (coded such that 0 = Low Investment, 1 = High Investment) and ITRs condition (0 = Destiny Belief, 1 = Growth Belief). The interaction between these two terms was entered on Step 2. I conducted a binary logistic regression when predicting participants' categorical stay/leave decisions and the manipulation check, whereas I conducted an ordinary least squares regression when predicting the continuous dependent measures.

Descriptive Statistics

Random assignment to the investment and ITRs conditions appeared to be successful and the assignment remained relatively equal following exclusions. That is, 191 participants (50.7%) were assigned to the low investment condition and 186 participants (49.3%) were assigned to the high investment condition. As for the ITRs conditions, 188 participants (49.9%) were assigned to

the destiny condition and 189 participants (50.1%) were assigned to the growth condition. Across the four possible condition combinations that participants could have been assigned to: 94 participants (24.9%) were randomly assigned to the Destiny / Low Investment Condition. 97 participants (25.7%) were randomly assigned to the Growth / Low Investment Condition. 94 participants (24.9%) were randomly assigned to the Destiny / High Investment Condition. Finally, 92 participants (24.4%) were randomly assigned to the Growth / Investment Cost Condition. Across the sample, the advice to the target in the scenario was divided: approximately 51% advised Emily to stay in her current relationship whereas 49% advised her to break up and pursue the romantic alternative. Figure 3 presents the percentage of participants who advised Emily to stay in the relationship (vs. leave it) broken down by investment condition. The descriptive statistics of the outcome expectations can be found in Table 4.2.

The binary logistic regression results suggested that the ITR manipulation was effective; that is, there was a significant main effect across the two ITR conditions in what they reported the couple's beliefs about their relationship is, $OR= 9.23, \chi^2(1) = 65.87, p < .001, 95\% CI [5.40, 15.79]$. This indicated that the odds ratio indicated that participants assigned to the destiny condition were 9.23 times more likely to select the destiny-oriented response in the manipulation check, compared to participant who were assigned to the growth condition. The correlations between the continuous variables measured in the study can be found in Table 4.3.

Stay Versus Leave Decision

Like in the previous studies, I used a hierarchical binary logistic regression to determine whether the two manipulations independently or together influenced stay/leave decisions (0 = Stay, 1 = Leave). The results revealed a significant main effect of investment condition, such that, as hypothesized, participants in the high investment condition were .59 times less likely to

advise the couple to end the relationship, compared to those in the low investment condition, $OR = .59, \chi^2(1) = 6.42, p = .011, 95\% \text{ CI } [.39, .89]$. The main effect of ITRs condition on the stay/leave decision, however, was not significant, $OR = .85, \chi^2(1) = .66, p = .417, 95\% \text{ CI } [.56, 1.27]$. As well, contrary to my hypothesis, the implicit theories of relationships conditions did not significantly interact with the investment conditions to predict stay/leave decision, $OR = .82, \chi^2(1) = .23, p = .630, 95\% \text{ CI } [.36, 1.85]$.⁹

Outcome Expectations

Like my previous studies, separate hierarchical linear regressions were conducted to predict the negative expectations of staying in this relationship and leaving, as well as the positive expectations of both outcomes.¹⁰

Expectations of Staying. For negative expectations of staying in the relationship, as predicted, participants in the higher investment condition reported significantly lower negative expectations about the couple staying together than did participants in the lower investment condition, $b = -.22, se = .09, t(373) = -2.59, p = .010, 95\% \text{ CI } [-.39, -.05]$. However, participants in the growth theory condition did not significantly differ from those in the destiny theory

⁹ Implicit theories of relationships were measured at the beginning of the survey, in addition to the manipulation. Therefore, I repeated this analysis controlling for the mean-centered chronic ITRs in Step 1 and the results revealed that the stronger a participant's growth belief was, they were .56 times less likely to advise the couple to break up, $OR = .56, \chi^2(1) = 10.77, p = .001, 95\% \text{ CI } [.40, .79]$. The main effect of investment condition remained significant, $OR = .59, \chi^2(1) = 6.35, p = .012, 95\% \text{ CI } [.39, .89]$. The ITRs condition and chronic destiny belief main effects were both non-significant predictors of the stay/leave decision (both $ps > .128$). The interaction between the ITRs and Investment conditions remained non-significant, $OR = .76, \chi^2(1) = .40, p = .525, 95\% \text{ CI } [.33, 1.76]$. As a next step, due to the ITRs condition not having a significant effect on my outcome measures, I repeated this exploratory analysis using the chronic ITRs variables in the main model and controlled for the ITRs condition participants were assigned to. The main effects of this model remained the same (i.e., significant main effects of chronic growth belief and investment condition, non-significant main effects of chronic destiny belief or the ITRs condition), and the two-way interactions remained non-significant between chronic growth belief and the investment condition, $OR = 1.56, \chi^2(1) = 1.55, p = .213, 95\% \text{ CI } [.78, 3.12]$, as well as chronic destiny belief and the investment condition, $OR = 1.08, \chi^2(1) = .09, p = .769, 95\% \text{ CI } [.66, 1.77]$. These analyses were repeated for all the outcome expectation and time investment measures and the two-way interactions were non-significant so their results were not reported further (all $ps > .130$).

¹⁰ All the following results reported in the main text of this section held while controlling for chronic growth and destiny beliefs. These analyses also revealed some main effects of chronic growth and/or destiny beliefs, which are reported in Footnotes 11 to 15.

condition on negative expectations of staying, $b = -.11$, $se = .09$, $t(373) = -1.28$, $p = .202$, 95% CI [-.28, .06]. Further, contrary to the hypothesis, the two-way interaction between the investment and ITR conditions was not significant, $b = -.16$, $se = .17$, $t(372) = -.96$, $p = .338$, 95% CI [-.50, .17].¹¹

For positive expectations of staying in the relationship, as predicted, participants in the higher investment condition reported significantly higher positive expectations about the couple staying together than did participants in the lower investment condition, $b = .28$, $se = .10$, $t(373) = 2.94$, $p = .003$, 95% CI [.09, .47]. Again, participants in the growth theory condition did not significantly differ from those in the destiny theory condition on positive expectations of staying, $b = .11$, $se = .10$, $t(373) = 1.15$, $p = .250$, 95% CI [-.08, .30]. The two-way interaction between the investment condition and ITRs was also not significant, $b = .03$, $se = .19$, $t(372) = .15$, $p = .885$, 95% CI [-.35, .40].¹²

Expectations of Leaving. For negative expectations of leaving the relationship, as predicted, participants in the higher investment condition reported significantly higher negative expectations about the target leaving the relationship than did participants in the lower investment condition, $b = .16$, $se = .08$, $t(373) = 2.08$, $p = .038$, 95% CI [.01, .31]. Again, participants in the growth theory condition did not significantly differ from those in the destiny theory condition on negative expectations of leaving, $b = .08$, $se = .08$, $t(373) = 1.01$, $p = .314$,

¹¹ All the following results reported in the main text of this section held while controlling for chronic growth and destiny beliefs. The main effect of chronic growth beliefs was non-significant, $b = -.08$, $se = .07$, $t(371) = -1.19$, $p = .235$, 95% CI [-.21, .05]. However, the stronger a participant's destiny belief was, the stronger negative expectations they had of the couple staying together, $b = .12$, $se = .05$, $t(371) = 2.43$, $p = .016$, 95% CI [.02, .22].

¹² All the following results reported in the main text of this section held while controlling for chronic ITRs. As well, the results revealed that the stronger a participant's growth belief was, the more they anticipated positive expectations of the couple staying together, $b = .19$, $se = .08$, $t(371) = 2.58$, $p = .010$, 95% CI [.05, .34]. Whereas the stronger a participant's destiny belief, the less positive expectations they had for the couple staying together, $b = -.12$, $se = .06$, $t(371) = -2.18$, $p = .030$, 95% CI [-.23, -.01].

95% CI [-.07, .23]. The two-way interaction between the investment conditions and ITRs was still not significant, $b = .07$, $se = .15$, $t(372) = .46$, $p = .646$, 95% CI [-.23, .37].¹³

For positive expectations of leaving the relationship, contrary to my prediction, there were no significant differences between participants in the higher investment condition and those in the lower investment condition, $b = -.07$, $se = .09$, $t(373) = -.78$, $p = .438$, 95% CI [-.24, .11]. Further, participants in the growth theory condition did not significantly differ from those in the destiny theory condition on positive expectations of leaving, $b = .07$, $se = .09$, $t(373) = .84$, $p = .403$, 95% CI [-.10, .25]. Again, the two-way interaction between the investment conditions and ITRs was not significant, $b = .03$, $se = .18$, $t(372) = .19$, $p = .849$, 95% CI [-.31, .38].¹⁴

Future Relationship Investment

I conducted hierarchical linear regressions to assess whether investment condition, ITR condition, or a combination of the two predicted how much time participants thought the target should continue to invest in the relationship in the future (scored on a slider scale ranging from 0 to 100). Consistent with my hypothesis, participants assigned to the higher investment condition reported that the target should continue to invest significantly more time in the relationship than did participants in the lower investment condition, $b = 7.55$, $se = 2.59$, $t(369) = 2.91$, $p = .004$, 95% CI [2.45, 12.64]. There once again was no significant effect of ITR condition such that participants in the growth theory condition did not significantly differ from those in the destiny theory condition on future time investment, $b = 2.38$, $se = 2.59$, $t(369) = .92$, $p = .360$, 95% CI [-

¹³ All results held when controlling for chronic ITRs, and there were marginally significant main effects of chronic growth, $b = .11$, $se = .06$, $t(371) = 1.86$, $p = .064$, 95% CI [-.01, .23], and destiny beliefs, $b = -.08$, $se = .04$, $t(371) = -1.75$, $p = .081$, 95% CI [-.17, .01], on negative expectations of leaving the relationship.

¹⁴ All results for positive expectations of leaving held when controlling for chronic ITRs. The main effect of chronic growth beliefs was non-significant, $b = -.10$, $se = .07$, $t(371) = -1.43$, $p = .154$, 95% CI [-.24, .04]. But, the stronger a participant's destiny belief was, the higher positive expectations they had of the relationship ending, $b = .14$, $se = .05$, $t(371) = 2.62$, $p = .009$, 95% CI [.03, .24].

2.72, 7.47]. The two-way interaction between the investment conditions and ITRs was not significant, $b = 6.37$, $se = 5.18$, $t(368) = 1.23$, $p = .220$, 95% CI [-3.82, 16.55].¹⁵

Exploratory Analyses of Coder-Rated “Focus” of Decision Making

The same approach described in the previous two studies was used to code and analyze participants’ open-ended descriptions of what they believe influenced their decisions. The descriptive statistics of each of the coded variables can be seen in Table 2.4. For the *past focus* variable, participants who were assigned to the high investment condition considered the past significantly more than did participants assigned to the low investment condition, $b = .15$, $se = .07$, $t(374) = 2.10$, $p = .037$, 95% CI [.01, .30]. No other main effects or interaction terms predicted past focus, all other $ps > .555$. For *future focus*, there were no significant main effects or interactions that predicted it, all $ps > .103$. For *money focus*, participants assigned to the growth condition reported significantly higher consideration of money compared to those assigned destiny condition, $b = .02$, $se = .01$, $t(374) = 2.01$, $p = .045$, 95% CI [.0004, .04]. Otherwise, there were no other main effects or interaction terms predicted money focus, all other $ps > .958$.

For *emotions focus*, participants assigned to the growth condition reported significantly lower consideration of emotions compared to those assigned to the destiny condition, $b = -.15$, $se = .07$, $t(374) = -2.11$, $p = .055$, 95% CI [-.28, -.01]. Otherwise, were no other significant main effects or interactions predicted emotions focus, all other $ps > .284$. For *effort focus*, there was a marginally significant main effect of investment condition. Specifically, participants who were

¹⁵ All results reported in the main text of this section held when controlling for chronic ITRs. The results revealed that, the stronger the participant’s chronic growth beliefs were, the more time they reported the target should continue to invest more time in the relationship, $b = 6.60$, $se = 2.05$, $t(367) = 3.22$, $p = .001$, 95% CI [2.57, 10.63]. The effect of chronic destiny beliefs was non-significant, $b = -1.47$, $se = 1.51$, $t(367) = -.976$, $p = .330$, 95% CI [-4.43, 1.49].

assigned to the high investment condition considered the effort slightly less than did participants assigned to the low investment condition, $b = -.16$, $se = .08$, $t(374) = -1.95$, $p = .052$, 95% CI [-.31, .001]. No other main effects or interaction terms predicted past focus, all other $ps > .118$. For *time focus*, there were no significant main effects or interaction terms that predicted it, all $ps > .109$.

Separate binary logistic regressions were conducted to test each focus variable as an individual predictor of our dichotomous decision dependent measure (0 = stay, 1 = leave). The past focus and time focus variables were the only significant predictors of the advice participants gave to the couple; the other focus variables were not significant (p 's $> .076$; see Table 4.4). That is, among participants who had a stronger consideration of the past, they were .39 times less likely to advise the couple to break-up (i.e., leave, choose the alternative course of action), compared to stay together (i.e., choose the current course of action). The same pattern existed for time focus.

I then conducted linear regression analyses to test the influence of participant focus on outcome expectations and recommendation for future time investment (see Table 4.5). Similar to Study 2, the more that participants considered the target's *past*, they had significantly lower negative expectations of the target staying in the relationship and significantly higher negative expectations about the target leaving the relationship. Likewise, the more that participants considered *time*, the higher the positive expectations they had of the couple staying together and lower positive expectations about the relationship ending. As well, the more participants considered time, the more time they reported that the target should continue to invest in their current relationship. *Future* consideration had a marginally significant relationship expectations of staying, specifically, the more that participants considered the future, they had slightly more

negative expectations about the couple staying together compared to individuals who had less consideration of the future. Related, the more that someone considered the future, they had slightly lower positive expectations about the couple staying together than did those who had less consideration of the future. Finally, a greater consideration of *effort* significantly predicted increased negative expectations of leaving the relationship. There was also a marginally significant relationship between effort focus and additional time investment; specifically, greater consideration of effort predicted slightly increased time that the individual felt the target should continue to invest in the relationship. Otherwise, the other focus variables did not significantly predict any of these expectations.

Taken together, these exploratory analyses provided additional support that the past is particularly meaningful to decision-making, whereas the future appeared to be much less influential, as found in Studies 1 and 2. Specifically, the more that participants considered the target's past, they overall viewed staying in the relationship more optimistically (i.e., higher positive expectations and lower negative expectations) and leaving the relationship more negatively. As well, the more participants considered the target's past, the more time they reported that the target should continue to invest in their current relationship. Although I cannot claim that participants were considering past *investments* specifically – it is possible that they were considering the history of the relationship more broadly – the pattern of effects aligned with the direction of the investments results. As well, participants who were assigned to the high investment condition considered the past significantly more than did participants assigned to the low investment condition. This suggests that, when participants thought more about the past, or were assigned to the higher investment condition, they may not have perceived the same level of risk involved with staying in the relationship that the participants who did not report thinking

about the past, or were assigned to the lower investment condition, did. A result of this exploratory analysis that was surprising was that participants assigned to the low investment condition considered effort more than did participants who were assigned to the high investment condition. This is the opposite direction that I would have expected, such that effort might be more salient when there are more investments.

The only instances where destiny or growth conditions had a significant effect on outcomes of interest was when I examined predictors of the coded focus variables in an exploratory analysis. Here, the results revealed that participants assigned to the growth condition reported slightly higher consideration of money compared to those assigned destiny condition but this was a very small difference. As well, participants assigned to the destiny condition reported slightly higher consideration of emotions compared to those assigned to the growth condition.

Study 3 Discussion

Study 3 provided further experimental support for the idea that higher (vs. lower) past investment makes people more inclined to maintain their relational status quo than to pursue an alternative that may ultimately lead to more positive outcomes. Specifically, participants who were assigned to the high investment condition were more likely to advise the couple to stay in the relationship (i.e., continue with the current course of action) rather than leave it (i.e., choose an alternative course of action), compared to participants assigned to the low investment condition. Related, as predicted, participants in the high investment condition reported more positive and fewer negative expectations about the couple staying together (vs. leaving the relationship) and more negative expectations about leaving the relationship, compared to participants assigned to the low investment condition. Participants who were assigned to the

higher investment condition also reported that the target should continue to invest more time in the relationship compared to participants in the lower investment condition, which is consistent with staying together. This further supports that greater investments predict greater commitment (e.g., Goodfriend & Agnew, 2008; Rusbult, 1980a; 1983; Rusbult & Martz, 1995), but my findings go beyond that to show that higher investments can keep people committed to the current path, even when they are provided with an appealing alternative option that is aligned with their interests and ideals, as described in the Study 3 scenarios. This commitment to the status quo could produce more negative relationship outcomes over time (e.g., McNulty, 2008).

Yet, as in Studies 1 and 2, the hypothesis that this tendency would be moderated by lay theories of relationships was not supported. That is, growth beliefs did not seem to influence participants' decision making nor did they interact with investments, neither did destiny beliefs. While the manipulation check revealed that participants assigned to the growth and destiny condition did indeed perceive the protagonist in the scenario as endorsing those relationship theories, this did not bear on their evaluation of whether she should stay or leave in the relationship. One possibility for this is that manipulating the ITRs that the *couple* held about their own relationship may have been less influential than manipulating participants' own ITRs.¹⁶

¹⁶ In Study 3, in addition to my ITRs manipulation, I included a chronic measure of participants' own ITRs, like the previous two studies. I did not originally consider the potential risk of making participants' own ITRs more salient before presenting them with the manipulation, particularly if their own chronic ITRs was incongruent with the ITRs condition they were randomly assigned to. To try to account for this oversight, as reported in footnotes 9-15, I first repeated my main analyses while controlling for the main effect of chronic ITRs. The results of my main analyses did not change, and there was a significant main effect of chronic growth beliefs on the advice they gave the couple. Next, because the ITRs manipulation did not significantly impact my outcome measures, I used chronic growth and destiny beliefs in the model, with the effect of the ITRs manipulation partialled out, to see if they might interact with investment condition. There were some main effects of chronic ITRs, but, overall, using chronic ITRs did not reveal the predicted growth and high investment interaction either. These findings suggested that how I operationalized ITRs did not impact the results; therefore, I am less concerned that including both measured and manipulated ITRs in Study 3 negatively impacted my results.

Overall, Study 3 provided additional support that investments predicted relationship decisions about continuing with current courses of action over choosing alternative ones, and ITRs did not, or at least not to the same extent. Most of my studies thus far have been consistent with prior literature on the effects of past investments on decision making (e.g., Coleman 2009; Rego et al., 2018; Rusbult, 1980a; Rusbult et al., 1998). That is, two out of my first three studies (i.e., Studies 2 and 3) have demonstrated significant effects of the investment size manipulations. Further, as shown throughout my exploratory analyses, stronger consideration of the past was associated with investment condition, and this focus on the past revealed a similar pattern of effects on the main outcomes measures as did the investment manipulation, particularly in Studies 2 and 3.

It is clear that past investments play a large role in individuals decision making within relationship domains (e.g., Rusbult & Martz, 1995; Rusbult et al., 1998; Tran et al., 2019), as well as non-relationship domains (e.g., Arkes & Blumer, 1985; Olivola, 2018; Thaler, 1980); however, extensions on Investment Model and interdependence theorizing has suggested that people's commitment is determined not just by past investments, but also by future, or planned, investments (Goodfriend & Agnew, 2008). Specifically, using correlational data, they found that future (i.e., planned) investments were associated with higher feelings of commitment among participants, as well as lower willingness to end their relationship, more so than were past investments. So, in Study 4 I decided to test the possibility that the timing of the investments, not just the size of them, could impact what advice participants gave to the couple. Therefore, in the next study I tried a different approach to investigating relationship investments by framing the temporal aspect of the investments; that is, the investments described in the scenario were either framed as having occurred in the past or they were planned investments for the future.

Study 4

In Study 4, I continued to test if ITRs shape how investments inform decision-making and expectations of either outcome. Compared to my prior studies, I changed how investments were operationalized by framing them in the past (i.e., investments that have already been made in the relationship) or in the future (i.e., investments that will be made in the relationship), rather than by the size of the investments, to test whether the temporal context of the investments matters to my hypothesize relationship between ITRs and investments. As previously mentioned, this was inspired by Goodfriend and Agnew's (2008) work which found that planned investments (tangible or intangible) and intangible investments (past or planned) were particularly robust predictors of commitment. Goodfriend and Agnew posited that the potential loss of future investments might influence an individual's decision to remain in a relationship, beyond the loss of resources already invested. These findings demonstrated the ability for investments to bias one's decision making was not limited to past investments, rather they can also be impacted by investments they have not even technically made yet.

Based on my results thus far – and much of the investment literature – that has demonstrated the effect of past investments on relationship outcomes, I suspected that framing the investments in the past would predict continuing with the current action (vs. the alternative) and more positive expectations about this outcome, compared to future-framed investments. But it is possible that, if participants thought about what the future might look like if the couple were to break up, perhaps the goals and plans the couple had could have an effect like Goodfriend and Agnew (2008) found. To my knowledge, ITRs literature has not explored how these beliefs may or may not be impacted by events in the past or the future, so my hypotheses offered a first examination of this. I speculated that individuals with stronger growth beliefs might be more

sensitive to past investments, than future ones, because these past investments could represent effort they have already invested in the relationship (e.g., Franiuk et al., 2004) and increase their preference to maintain the current course of action rather than pursue an alternative one.

Therefore, I hypothesized that participants assigned to the *past investment condition* would be more likely to advise the couple to stay in the relationship (vs. leave), and report more optimistic expectations of doing so, compared to those assigned to the *future investment condition*.

Likewise, I hypothesized that participants with stronger (vs. weaker) growth beliefs would be more likely to advise the couple to stay in the relationship (vs. leave), and report more optimistic expectations associated with the couple doing so. Finally, my main hypothesis was that, among participants with stronger (vs. weaker) growth beliefs, those assigned to the *past investment condition* would be more likely to advise the couple to stay together (vs. leave), and report more optimistic expectations associated with this outcome, compared to those who were assigned to the *future investment condition*. I did not advance any hypotheses about whether participants' chronic destiny beliefs would also moderate this effect.

Method

Participants

Four hundred and forty-six participants were recruited for this online study through CloudResearch (formerly TurkPrime; see Litman et al., 2017) and were compensated with \$1.00 USD. A total of 47 participants were excluded because their response patterns strongly suggested they could be a robot ($n = 18$), they did not complete the survey ($n = 15$), they were duplicate participant IDs ($n = 13$), or they did not consent to participate in the survey ($n = 1$); therefore, the final sample was 399 participants. A slight majority of participants identified as women (51.9%) and a majority identified as White (71.4%), and the average age was just under 40 years old (SD

= 12.03). An overview of the sociodemographic characteristics of this sample can be found in Table 5.1.

Procedure

After providing their consent to participate, participants were asked to complete the same chronic measures of growth ($M = 5.19$, $SD = .63$; $\alpha = .86$) and destiny beliefs ($M = 4.14$, $SD = 1.16$; $\alpha = .92$) used in the previous studies. Because this was the first time, to my knowledge, of assessing the relationship between ITRs and temporal framing, it was advantageous to start with chronic ITRs rather than trying to capture my hypothesized effect with induced ones. Next, they were randomly assigned to read one of two scenarios about a couple named Monique and Sam. The scenarios each described a bit about the couple's relationship, such as how long they had been together, and mentioned that they had recently been arguing more frequently and sometimes a solution does not seem possible. The scenario described several relationship investments that were framed either in the past (i.e., what had already been invested; *past-framed investments condition*) or in the future (i.e., planned investments; *future-framed investments condition*) as the manipulation of investments. The content of this manipulation was designed using the items from the Goodfriend and Agnew (2008) measure.

Participants were then asked to provide their advice as to whether the female protagonist, Monique, should stay in this relationship or leave it. Participants then completed the same outcome expectations measures from my previous studies, tailored to the current scenario. Participants were also asked to report how they interpreted the arguments that the couple was having (i.e., a rough patch or a more permanent issue), whether Monique was focusing on the past or the future (which served as a manipulation check for the investment manipulation), and

how well the couple “fit” together as a couple.¹⁷ I also included a measure that asked participants what they would choose to do if they were faced with the same decision that was described in the scenario to approximate what their own decision-making process would be like. Next, participants provided demographic information and responded to an open-ended question asking them about what details from the scenario they considered when making their decision. Participants were then presented the debriefing form.

Materials

The scenario used in Study 4 differed from those used in my previous studies in a few key ways. First, the scenario was much shorter to reduce how much participants were asked to read. Second, the previous scenarios spoke about the couples in third person, whereas the scenario that I designed for Study 4 was in the first-person perspective, as if one of the members of the couple (i.e., Monique) wrote it herself. I anticipated that this might help participants feel more connected to the scenario that they were asked to advise on. The full scenarios used in Study 4 can be found in Appendix E, and the rest of the materials can be found in Appendix A. Below I only reported the new measures in the study, not the ones that were consistent with my previous studies.

Conflict Interpretation. To capture how participants interpret the conflict that was described in the scenario, participants were asked, “How do you interpret the argument that this couple has been having?” They then selected one of the two following response options, “A

¹⁷ To assess participants’ perceptions of how well the couple described in the scenario “fit” together, I adapted the Perceived Partner Fit measure (Franiuk et al., 2004) to be about the couple described, as opposed to the original scale which measures the perceived fit of one’s own partner. This measure was presented after the measurement of ITRs, investment manipulation and main outcome variables to reduce the chances of contaminating hypothesized effects. There were four items total and they were averaged together to form a measure of perceived couple fit ($M = 4.43$, $SD = 1.01$, $\alpha = .82$). Exploratory analyses revealed that stronger growth beliefs predicted higher perceived couple fit, $b = .48$, $se = .06$, $t(390) = 8.07$, $p < .001$, 95% CI [.36, .60], so this measure was not used as a potential moderator variable in any further exploratory analyses.

rough patch that they will be able to work through as a couple” and “A sign of a more permanent problem with their relationship.”

Investment Frame Manipulation Check. To assess if the manipulation of how the relationships were framed was successful, participants were asked, “What did Monique seem to be thinking about most in the scenario?” They then selected one of the two following response options, “The past and what they had already done in the relationship” and “The future and what they will be doing in the relationship.”

Additional Investment. To assess how much more time, money, and effort that Monique should invest in her current relationship, using separate slider scales, participants scored between 0 (demonstrating *no time/money/effort*) or 100 (demonstrating *a lot of time/money/effort*) in the relationship. Higher scores indicated that she should continue to invest more in the relationship. On average, participants reported a moderate amount of investment of her available time ($M = 68.15$, $SD = 24.48$), money ($M = 51.48$, $SD = 26.35$), and effort into the relationship ($M = 75.47$, $SD = 25.05$).

Participant’s Own Decision. As a proxy measure of what decision participants would make for themselves, participants were asked to indicate whether they would choose to stay in this relationship, or leave it, if they were in the same situation as Monique.

Decision Considerations. As in previous studies, after the demographic questions, participants were asked to identify and describe what details from the scenario they read influenced what advice they gave in the text box provided. These responses were not analyzed as a part of this study.

Results

Data Analytic Strategy

I cleaned, coded, and analyzed all the data using SPSS 28 and followed a similar data analytic strategy as in previous studies. On the first step of a hierarchical regression analysis, I entered dummy coded variables representing investment condition (coded such that 0 = Past-framed investments, 1 = Future-framed investments) and the continuous chronic ITRs measures. I created interaction terms with the investment condition variable and the growth belief variable, and the destiny one, which were entered on Step 2. I conducted a binary logistic regression when predicting participants' categorical stay/leave decisions and the investment framing manipulation check, whereas I conducted an ordinary least squares regression when predicting the continuous dependent measures. This study did not include independent coding of the open-ended responses of what informed participants' decisions (i.e., the advice they gave to the couple).

Descriptive Statistics

Random assignment to the investment-frame conditions appeared to be successful and the assignment remained relatively equal following exclusions. That is, 201 participants (50.4%) were assigned to the past-framed investments condition and 198 participants (49.6%) were assigned to the future-framed investments condition. Notably, participants in this sample overwhelmingly advised the target to continue with the current course of action (i.e., stay in the relationship; $n = 359$) compared to choose an alternative course of action (i.e., leave; $n = 40$). Most participants (87.2%) interpreted the conflict described in the scenario as a "rough patch", compared to a "permanent problem." Similarly, most participants (88%) reported that they would choose to stay in this relationship if they were in the scenario described, and 12% reported that they would choose to leave. Figure 4 presents the percentage of participants who advised the couple to stay together (vs. leave) broken down by investment condition. The descriptive statistics can be found in Table 5.2. The risk and regret items were again averaged to create a

separate item for risk and regret if they continue the relationship ($M = 2.46$, $SD = .81$, $r = .51$, $p < .001$), and another for risk and regret if they end the relationship ($M = 3.33$, $SD = .86$, $r = .46$, $p < .001$). A table of the correlations between the continuous variables can be found in Table 5.3. My manipulation of temporal framing of investment appeared to be effective; specifically, Participant assigned to the past-framed investment condition were 39.95 times more likely to report that Monique was thinking about the past of the relationship, compared to participants assigned to the future-framed investment condition, $OR = 39.95$, $\chi^2(1) = 157.41$, $p < .001$, 95% CI [22.46, 71.08].

Stay Versus Leave Decision

One of the key dependent measures was a dichotomous variable that represented participants' advice to either stay in (coded as 0) or leave (coded as 1) the relationship. There were no significant main effects of investment condition, $OR = 1.47$, $\chi^2(1) = 1.22$, $p = .269$, 95% CI [.74, 3.01]. But, as predicted, there was a significant main effect of growth belief such that participants who were higher in growth belief were less likely to advise the target to leave the relationship, $OR = .46$, $\chi^2(1) = 14.64$, $p < .001$, 95% CI [.31, .69]. There was a marginally significant main effect of destiny belief, such stronger destiny beliefs were related to a somewhat higher likelihood of advising the target to leave the relationship, $OR = 1.39$, $\chi^2(1) = 3.34$, $p = .068$, 95% CI [.98, 1.98]. The results revealed that there was neither a significant two-way interaction between condition and growth belief, $OR = 1.37$, $\chi^2(1) = .56$, $p = .453$, 95% CI [.60, 3.13], nor between condition and destiny belief, $OR = 1.77$, $\chi^2(1) = 2.34$, $p = .126$, 95% CI [.85, 3.66].

Outcome Expectations

Like all my previous studies, separate hierarchical regression analyses were conducted to predict the negative expectations of staying in this relationship and leaving, as well as the positive expectations of both outcomes. The results are presented by outcome to illustrate how participants were feeling – positively or negatively – towards each outcome, and how that may differ based on investments and ITRs.

Expectations of Staying. For negative expectations of staying in the relationship, the main effect of the investment condition was not significant, $b = -.01$, $se = .08$, $t(395) = -.12$, $p = .902$, 95% CI [-.16, .14]. There was, however, a significant effect of growth belief, such that the stronger someone's growth belief was, it predicted lower levels of risk and regret of staying (i.e., continuing with the current course of action), $b = -.19$, $se = .049$, $t(395) = -3.87$, $p < .001$, 95% CI [-.29, -.09]. There was also a significant main effect of destiny beliefs, such that the stronger someone's destiny belief was, the more negative expectations they had of the couple staying together, $b = .10$, $se = .04$, $t(395) = 2.68$, $p = .008$, 95% CI [.03, .17]. Further, contrary to my hypothesis, the two-way interaction between the investment condition with growth belief was not significant, $b = -.06$, $se = .10$, $t(393) = -.62$, $p = .538$, 95% CI [-.26, .13]. Likewise, the interaction with destiny belief was also not statistically significant, $b = .02$, $se = .07$, $t(393) = .26$, $p = .797$, 95% CI [-.13, .16].

For positive expectations of staying in the relationship, again, there were no significant effects of the investment condition, $b = -.08$, $se = .08$, $t(393) = -1.00$, $p = .321$, 95% CI [-.25, .08]. The results revealed another significant effect of growth belief, such that, the stronger someone's growth belief was, the more happiness they anticipated if the relationship continued, $b = .34$, $se = .05$, $t(393) = 6.44$, $p < .001$, 95% CI [.23, .44]. The main effect of destiny belief was non-significant, $b = -.01$, $se = .04$, $t(393) = -.28$, $p = .783$, 95% CI [-.23, .44]. As well, there were

no significant effects of the two-way interactions of the investment condition with growth belief, $b = -.01$, $se = .11$, $t(391) = -.074$, $p = .941$, 95% CI [-.21, .20], and with destiny belief, $b = -.05$, $se = .08$, $t(391) = -.59$, $p = .554$, 95% CI [-.20, .11].

Expectations of Leaving. For negative expectations of leaving the relationship, there was a significant main effect of the investment condition, such that participants assigned to the future-focused investments condition anticipated less risk and regret with ending the relationship compared to participants who were assigned to the past-focused investments condition, $b = -.17$, $se = .08$, $t(395) = -2.03$, $p = .043$, 95% CI [-.34, -.01]. As well, there was a significant effect of growth belief such that, the stronger someone's growth belief was, the more negative expectations they had about Monique choosing to end the relationship, $b = .22$, $se = .05$, $t(395) = 4.11$, $p < .001$, 95% CI [.11, .32]. There were still no significant effects of destiny belief on expectations around risk and regret of leaving the relationship, $b = -.03$, $se = .04$, $t(395) = -.63$, $p = .533$, 95% CI [-.10, .05]. I continued to not see any significant two-way interactions of the investment condition with growth belief, $b = -.02$, $se = .11$, $t(393) = -.14$, $p = .889$, 95% CI [-.23, .20], or with destiny belief, $b = .03$, $se = .08$, $t(393) = .33$, $p = .738$, 95% CI [-.13, .18].

For positive expectations of leaving the relationship, there was no significant main effect of the investment condition, $b = -.08$, $se = .10$, $t(395) = -.80$, $p = .423$, 95% CI [-.28, .12]. Again, there was a significant effect of growth belief such that the stronger someone's growth belief was, the less happiness they anticipated if the relationship were to end, $b = -.18$, $se = .06$, $t(395) = -2.76$, $p = .006$, 95% CI [-.30, -.05]. The main effect of destiny belief was non-significant, $b = .03$, $se = .05$, $t(395) = -.80$, $p = .423$, 95% CI [-.28, .12], as well, there were no significant effects of the two-way interactions of the investment condition with growth belief, $b = -.11$, $se = .13$,

$t(393) = -.83, p = .407, 95\% \text{ CI } [-.36, .15]$, and with destiny belief, $b = -.05, se = .10, t(393) = -.83, p = .407, 95\% \text{ CI } [-.36, .15]$.

Future Relationship Investment

To assess whether investment condition, ITRs, or a combination of the two predict how much time, money, and effort participants think that the target should continue to invest in her relationship, participants used a series of three slider scales ranging from 0 to 100 to indicate the percentage of investment that should be made, like in Study 3 but with the added measures for money and effort. For time investment, there was no significant effect of the investment condition, $b = 1.57, se = 2.41, t(388) = .65, p = .514, 95\% \text{ CI } [-3.16, 6.30]$, but there was a significant main effect of growth belief, such that the stronger someone's growth belief was, the more time they thought she should invest in the relationship, $b = 6.64, se = 1.52, t(388) = 4.37, p < .001, 95\% \text{ CI } [3.65, 9.63]$. The main effect of destiny beliefs on future invested time was non-significant, $b = -.77, se = 1.14, t(388) = -.68, p = .498, 95\% \text{ CI } [-3.00, 1.46]$. Further, there were no significant two-way interactions of the investment condition and with either growth belief, $b = 2.76, se = 3.06, t(386) = .90, p = .368, 95\% \text{ CI } [-3.26, 8.77]$, or destiny beliefs, $b = .37, se = 2.28, t(386) = .16, p = .870, 95\% \text{ CI } [-4.10, 4.85]$. For money investment, the main effect of the investment condition was non-significant, $b = 3.78, se = 2.58, t(388) = 1.47, p = .144, 95\% \text{ CI } [-1.29, 8.86]$. The main effect of growth belief was significant, such that the stronger someone's growth belief was, the more money participants thought she should invest in the relationship, $b = 8.28, se = 1.63, t(388) = 5.07, p < .001, 95\% \text{ CI } [5.07, 11.49]$. Again, there were no significant main effects of destiny beliefs, $b = 1.29, se = 1.22, t(388) = 1.05, p = .293, 95\% \text{ CI } [-1.11, 3.68]$. There were also no significant two-way interactions of investment condition and either growth, $b = 2.59, se = 3.28, t(386) = .79, p = .430, 95\% \text{ CI } [-3.86, 9.05]$, or destiny beliefs, $b = -.54, se =$

2.44, $t(388) = -.22$, $p = .827$, 95% CI [-5.34, 4.27]. For effort investment, once again the main effect of investment condition was not significant, $b = .85$, $se = 2.43$, $t(387) = .35$, $p = .729$, 95% CI [-3.94, 5.63]. There was a significant main effect of growth belief, indicating that the stronger someone's growth belief was, the more effort participants thought she should invest in the relationship, $b = 6.54$, $se = 1.54$, $t(387) = 4.25$, $p < .001$, 95% CI [3.52, 9.57]. There was also a significant main effect of destiny belief, such that the stronger someone's destiny belief was, the less effort they thought she should invest in the relationship, $b = -2.55$, $se = 1.15$, $t(387) = -2.21$, $p = .028$, 95% CI [-4.81, -.28]. There were no significant two-way interactions between investment condition and either growth beliefs, $b = 1.91$, $se = 3.09$, $t(385) = .62$, $p = .729$, 95% CI [-4.17, 8.00], or destiny beliefs, $b = -1.12$, $se = 2.31$, $t(385) = -.48$, $p = .628$, 95% CI [-5.65, 3.42].

Study 4 Discussion

In Study 4, I tested whether the temporal framing of the investments – past or future – in the scenario presented to participants influenced the decisions participants made, or how they perceived either outcome, individually and in combination with participants' ITRs. Overall, participants in the sample overwhelmingly advised the target to continue with the current action (i.e., stay in the relationship) compared to choose an alternative course of action (i.e., leave it), suggesting a strong progression bias (Joel & MacDonald, 2021). This may have been a result of participants potentially perceiving that the conflict described in the scenario was merely a short-term conflict rather than something indicating a longer-term issue.

Despite the manipulation check indicating that the investment manipulation was successful at framing the relationship investments as either occurring in the past or in the future, there was essentially no significant main effect of investment in Study 4 which was contrary to

my hypothesis. The only exception was that participants assigned to the future-framed investments condition anticipated fewer negative expectations with ending the relationship, compared to participants assigned to the past-focused investments condition. This finding suggests that my speculation that future investments may not feel as tangible (because they had not been invested yet), might have been supported but it was only one finding out of several outcome measures. Alternatively, perhaps participants just noticed that there were investments referenced generally in each of the conditions and that was enough to contribute to their advice for the couple to stay together and remain committed (e.g., Rusbult, 1980a; 1983; Rusbult & Martz, 1995). Taken together, the results of Study 4 did not replicate Goodfriend and Agnew's (2008) results that found that planned (i.e., future) investments were associated with higher feelings of commitment among participants, as well as lower willingness to end their relationship, more so than were past investments. Perhaps manipulating the timing of the investments as I did, using the items of their scale to create my manipulation, does not produce the same effect on stay/leave decisions, or investment timing is less relevant than the size of investment (i.e., low vs. high) in informing these types of relationship decisions. For this reason, I returned to manipulating investment size in Study 5.

For the first time across any of my studies, there was a significant main effect of growth beliefs on every outcome measure that was analyzed in Study 4. The pattern of the effect was that individuals with stronger (vs. weaker) growth beliefs were less likely to advise the target to leave the relationship, which consistent with my hypotheses. Related, as predicted, stronger growth beliefs predicted lower levels of perceived risk and regret of continuing the relationship, as well as higher levels of happiness if they continued the relationship. Similarly, individuals with stronger (vs. weaker) growth beliefs reported higher levels of risk and regret if Monique

chose to end the relationship, and that there should be greater future relationship investment (i.e., money, time, and effort). The results revealed that the stronger someone's destiny belief was, the more negatively they felt towards the current course of action (i.e., staying together); otherwise, there were no other significant effects of chronic destiny beliefs. Finally, the results of the analyses predicting future relationship investment (i.e., time, effort, and money) demonstrated a consistent main effect of growth such that the stronger someone's growth beliefs were, the more time, money, and effort, they thought the target should continue to invest in the relationship. This aligns with my theorizing that growth beliefs would be associated with continuing with the current course of action, rather than an alternative one.

There were some limitations of Study 4 worth noting. Namely, some of the content that was consistent across the scenarios may have suggested to participants that the problems are more trivial or they could be overcome, which may be why the majority of participants interpreted the conflict described in the scenario as a "rough patch". Related, participants overwhelmingly advised the couple to stay together (vs. end the relationship), so there was not much variation in responses to detect effects with. At the time I analyzed the data for Study 4 and then prepared to launch Study 5, I focused more on adjusting the investment manipulation that I did not consider the potential adjustments that I could have made to the way the relationship was described and make the conflict seem more severe to try to receive more balanced response between staying and leaving. In hindsight, I should have changed the scenario more when I used it in Study 5.

Taken together, the results of Study 4 indicated that the temporal framing of the investments – past or future – did not have the same impact as the quantity of investments on participants' decision-making processes, or how they perceived either outcome. It is also

possible that, in the future-framed investments condition, the sentence, “Their sibling Jordan is getting married next year and I’m in the wedding party.” could have been obscured the strict focus on the future because the invitation to be in the wedding party (past), being in the wedding party (current), and when the wedding takes place (future) are all different time points. However, I am not sure if this would be able to explain the general lack of effect of this type of investment manipulation.

Study 4 was the first time that I received consistent support for an effect of chronic growth beliefs on my outcomes of interest, and in my hypothesized direction. There are a few possibilities as to why the effect of growth belief may have emerged in Study 4, compared to Studies 1-3. First, I used a different recruitment method for this study, which resulted in an older sample (i.e., not undergraduate students). I discuss the recruitment methods and potential age differences related to ITRs in the general discussion.

To further examine my primary hypotheses, and with the hope of replicating this effect of growth beliefs, in Study 5 I returned to using high-vs.-low investment framing for that manipulation. As well, to improve upon from Study 3, I chose an article-style manipulation of growth and destiny beliefs (Franiuk et al., 2004) because it is a common method of manipulating ITRs in past research (e.g., Chiu et al., 1997; Franiuk et al., 2004; Maxwell et al., 2017) which gave me greater confidence that I would successfully manipulate these beliefs and hopefully see my hypothesized effects in my final study.

Study 5

The previous four studies have provided no support for my primary hypothesis that ITRs would moderate the role of investments on people’s willingness to maintain a current course of action in their relationships versus pursue a more rewarding alternative. Yet, the data have

revealed firmly that, as predicted, when there were greater (vs. lesser) previous investments in the relationship, participants tended to advise the couple in the scenario to continue with the current course of action, rather than shift to an alternative, and also feel more optimistic towards that choice to continue. When considering implicit theories of relationships, the data have shown – albeit inconsistently – that growth beliefs heighten people’s inclination to persist with the current course of action, rather than choose an alternative one, as I predicted.

In Study 5, the final study, I included a classic manipulation of ITRs from Franiuk and colleagues (2004) to expand upon Study 3 and induce participants’ *own* beliefs rather than manipulate the beliefs of the couple described in the scenario. This approach better aligned with manipulations used in prior research (e.g., Chiu et al., 1997; Franiuk et al., 2004; Maxwell et al., 2017). I also returned to manipulating investment size, like in Studies 1 to 3, to provide the best chance of detecting my hypothesized interaction between growth beliefs and higher investments. Otherwise, the scenario and procedure used in Study 5 was similar to that of Study 4. I hypothesized that participants assigned to the *high investment condition* (vs. those assigned to the *low investment condition*) would be more likely to advise the couple to stay in the relationship, and report more optimistic expectations of doing so, compared to leave the relationship. I also hypothesized that participants assigned to the *growth condition* would be more likely to advise the couple to stay (vs. leave), and report more optimistic expectations associated of doing so, compared to those assigned to the *destiny condition*. Finally, my central hypothesis was that, among participants assigned to the *growth condition* (vs. the *destiny condition*), those assigned to the *high investment condition* would be more likely to advise the couple to stay together (vs. leave), compared to those who were assigned to the *low investment condition*, and report more optimistic expectations associated with this outcome.

Method

Participants

Four hundred and thirty-three participants were recruited for this online study through CloudResearch (formerly TurkPrime; see Litman et al., 2017) and were compensated with \$1.00 USD. A total of 40 participants were excluded because they were suspected to be a bot due to response patterns ($n = 13$), they did not complete the survey ($n = 24$), or they were duplicate participant IDs ($n = 3$). Therefore, the final sample was 393 participants, a slight majority identified as women (54.2%) and the majority identified as White (78.6%), and the average age was 40 years old ($SD = 12.02$). An overview of the sociodemographic characteristics of this sample can be found in Table 6.1.

Procedure

After providing their consent to participate, participants were randomly assigned to read one of two ostensibly real articles about “how to get relationships to last” to manipulate their own ITRs, which were adapted from Franiuk and colleagues’ (2004) paper. Both articles described a couple who had been together for 12 years so far, and featured seemingly real research findings from a longitudinal survey on romantic relationships, both endorsing that the key to a successful, happy long-lasting relationship was either based on the initial connection (i.e., destiny condition) or the obstacles that the couple had worked to overcome over time (i.e., growth condition). After that, participants were randomly assigned to read one of two scenarios about a couple named Monique and Sam. The scenarios were similar to the ones used in Study 4 except the investment manipulation returned to high and low investment framing (not past- and future-framed investments), and there were some minor adjustments to enhance readability and

flow.¹⁸ It still involved Monique describing her relationship with her partner, Sam, from her perspective, which described various investments in their relationship (high or low), and their relationship dynamic, including that they had recently been having challenges in their relationship. At the end of both scenarios, participants were asked what advice they would give to Monique which was the main dependent measure (i.e., stay/leave decisions). Participants then completed the additional dependent measures (e.g., expectations about the decision¹⁹), tailored to the current scenario. As in Study 4, participants were also asked to report how they interpreted the arguments that the couple was having (i.e., a rough patch or a more permanent issue).²⁰ As in my previous studies, participants were asked to rate how much time, effort, and money she should continue to invest in the relationship. Like in Study 4, I included a measure asking participants what they would choose to do if they were faced with the same decision that was described in the scenario to approximate their own decision-making process. Finally, participants were asked to provide demographic information and responded to an open-ended question asking them about what details from the scenario they considered when making their decision before reading the debriefing form.

Materials

¹⁸ Due to the skew in responses towards advising the couple to stay together rather than end their relationship in Study 4, it could be argued that a different scenario should have been used in Study 5. At the time, I focused on the lack of effect of the investment manipulation, and revised that manipulation within the scenario accordingly. However, I did not consider additional ways that the scenario could have been adapted to try to balance out the advice participants provided to the couple in the scenario.

¹⁹ The wording of the risk perception measures slightly differed in this survey, compared to the other surveys, to enhance readability.

²⁰ Like in Study 4, participants reported how well they felt the partners “fit” together as a couple ($M = 4.49$, $SD = 1.19$, $\alpha = .89$). This measure was also presented after the ITR manipulation, investment manipulation, and main outcome variables to reduce the chances of contaminating my hypothesized effects. Exploratory analyses revealed that participants assigned to the high investment condition perceived slightly higher couple fit ($M = 4.59$, $SE = .08$) than did those assigned to the low investment condition ($M = 4.39$, $SE = .09$), $F(1, 389) = 2.81$, $p = .094$, $\eta_p^2 = .007$. Further, perceived couple fit was significantly higher among participants in the growth belief condition ($M = 4.67$, $SE = .09$) compared to those in the destiny belief condition ($M = 4.31$, $SE = .08$), $F(1, 389) = 9.01$, $p = .003$, $\eta_p^2 = .02$. Therefore, this measure was not used as a potential moderator variable in any other exploratory analyses.

Implicit Theories of Relationships Manipulation. I used the manipulation by Franiuk and colleagues (2004) to induce a stronger destiny (i.e., “soulmate”) or growth (i.e., “work-it-out”) belief amongst participants. The articles, both entitled, “*Love for the Long Haul: How to get romantic relationships to last.*” For the current study, the articles were adapted slightly from their original form to make them more current (e.g., updating dates mentioned to be closer to present-day, and changing the one partner’s name from Fred to Alex). The article manipulation was selected based on it being a commonly-used method to manipulate these implicit theories of relationships (e.g., Chiu et al., 1997; Franiuk et al., 2004; Maxwell et al., 2017), and its suitability for the context of this study. For the complete articles, along with the investment manipulation, see Appendix F. The rest of the materials can be found in Appendix A.

Results

Data Analytic Strategy

I cleaned, coded, and analyzed all the data using SPSS 28, and followed the same data analytic strategy that was outlined in Study 4 except ITRs were categorical variables rather than continuous variables because they were manipulated in Study 5. I did not complete an analysis of my manipulation check because I did not include one in Study 5.

Descriptive Statistics

Random assignment of the implicit theories of relationships conditions appeared to be successful and the assignment remained relatively equal across the sample, even after exclusions. Specifically, 201 participants (51.1%) were assigned to the Destiny Belief condition and 192 participants (48.9%) were assigned to the Growth Belief condition. The random assignment to the investment conditions also appeared to be successful. That is, 192 participants (48.9%) were assigned to the Low Investment condition and 201 participants (51.1%) were assigned to the

High Investment condition. Across the four possible condition combinations that participants could have been assigned to: 92 participants (23.4%) were randomly assigned to the Destiny / Low Investment Condition. 100 participants (25.4%) were randomly assigned to the Growth / Low Investment Condition. 109 participants (27.7%) were randomly assigned to the Destiny / High Investment Condition. Finally, 92 participants (23.4%) were randomly assigned to the Growth / High Investment Condition. The descriptive statistics of participants' positive and negative expectations of the stay and leave outcomes can be found in Table 6.2. The risk and regret items were again averaged to create a separate item for risk and regret if they continue the relationship ($M = 2.49$, $SD = .81$, $r = .48$, $p < .001$), and another for risk and regret if they end the relationship ($M = 3.13$, $SD = .89$, $r = .50$, $p < .001$).

Notably, like Study 4, participants in the sample overwhelmingly advised the target to continue with the current course of action (i.e., stay in the relationship; 83.2%) compared to choose an alternative course of action (i.e., leave; 16.8%). Figure 5 presents the percentage of participants who advised the couple to stay together (vs. leave) broken down by investment condition. Further, most participants (81.4%) interpreted the conflict described in the scenario as a "rough patch", compared to a "permanent problem" (18.6%). The ITRs article that participants were randomly assigned to read to manipulate destiny or growth beliefs did not significantly influence how they interpreted the conflict in the scenario, $\chi^2(1) = 2.16$, $p = .142$. Most participants (81.7%) reported that they would choose to stay in this relationship if they were in the scenario described, whereas 18.3% reported that they would choose to leave. On average, participants rated that Monique should continue to invest effort ($M = 71.13$, $SD = 28.87$), followed by time ($M = 62.85$, $SD = 27.45$), and then money ($M = 44.91$, $SD = 27.02$). On average, participants rated that Monique was "moderately"-to-"very" committed ($M = 3.83$, $SD =$

.78) and “moderately” satisfied ($M = 3.02$, $SD = .77$) in the relationship she was in. Table 6.3 presents the Pearson correlations for the continuous variables that were measured in Study 5.

Stay Versus Leave Decision

Consistent with my previous studies, one of the key dependent measures was a dichotomous variable that represented participants’ advice for the scenario target to either stay in (coded as 0) or leave (coded as 1) the relationship. The results of the hierarchical binary logistic regression revealed, as predicted, there was a significant main effect of investment condition, such that being assigned to the high investment condition decreased participants’ odds of advising Monique to leave the relationship (i.e., choose the alternative course of action), $OR = .50$, $\chi^2(1) = 6.19$, $p = .013$, 95% CI [.29, .86]. There was also a marginally significant main effect of the ITR condition, such that, consistent with my hypothesis, participants assigned to the growth condition decreased the participant’s odds of advising Monique to leave the relationship, $OR = .59$, $\chi^2(1) = 3.50$, $p = .061$, 95% CI [.34, 1.03]. Further, the results revealed that there was a marginally significant two-way interaction between the implicit theories of relationships conditions and the investment conditions, $OR = 2.87$, $\chi^2(1) = 3.49$, $p = .062$, 95% CI [.95, 8.68]. I calculated predicted probabilities to interpret this interaction, which revealed that, among participants who were assigned to the growth condition, those who also assigned to the high investment condition were 13.06% likely to advise leaving (vs. staying), and those assigned to the low investment condition were 14.00% likely to do the same. Among participants assigned to the destiny condition, those who were also assigned to the high investment condition were 11.93% likely to advise leaving (vs. staying), and those assigned to the low investment condition were 29.67% likely to advise leaving rather than staying in the relationship. Although this interaction was only marginally significant, the general pattern of effects aligned with my

prediction that growth beliefs and high investment together would make someone among the least likely to advise someone to leave the relationship, compared to when there were lower investments and destiny beliefs.

Outcome Expectations

Separate hierarchical linear regressions were conducted to predict the negative expectations of staying in this relationship and leaving, as well as the positive expectations of both outcomes. The results are presented by outcome to illustrate how positively or negatively participants were feeling towards each outcome and how that may differ based on investment and ITR conditions.

Expectations of Staying. For negative expectations of staying in the relationship, there was also a marginally significant main effect of the Investment Conditions, such that participants assigned to the high investment condition had a slightly lower negative expectations of staying in the relationship than did participants who were assigned to the low investment condition, $b = -.16$, $se = .08$, $t(390) = -1.93$, $p = .054$, 95% CI [-.32, .003]. There was also a marginally significant main effect of the ITR Conditions, which indicated that participants assigned to the growth condition had a slightly lower negative expectations of staying in the relationship than did participants who were assigned to the destiny, $b = -.16$, $se = .08$, $t(390) = -1.95$, $p = .052$, 95% CI [-.32, .002]. The two-way interaction between the investment and ITR conditions was marginally significant, $b = .27$, $se = .16$, $t(389) = 1.68$, $p = .093$, 95% CI [-.05, .59] (see Figure 6).

Examination of the simple effects revealed that, among participants assigned to the growth condition, there was no difference in negative expectations of the couple staying together, $F(1, 389) = .024$, $p = .878$. However, among participants assigned to the destiny

condition, participants assigned to the high investment condition ($M = 2.43$, $SE = .08$) reported significantly lower negative expectations of the couple staying together, compared to those assigned to the low investment condition ($M = 2.72$, $SE = .08$), $F(1, 389) = 6.56$, $p = .011$. Among participants who were assigned to the high investment condition, they did not significantly differ in their negative expectations of the couple staying together, regardless of whether they were induced to have a growth belief ($M = 2.40$, $SE = .08$) or a destiny belief ($M = 2.42$, $SE = .08$), $F(1, 389) = .046$, $p = .830$. In contrast, among participants who were assigned to the low investment condition, participants who were induced to have a growth belief ($M = 2.42$, $SE = .08$) reported significantly fewer negative expectations of the couple staying together than did participants induced to have a destiny belief ($M = 2.72$, $SE = .08$), $F(1, 389) = 6.59$, $p = .011$. Overall, participants assigned to the destiny belief condition and the low investment condition had greater negative expectations of staying, compared to the other groups, but this two-way interaction was marginally significant.

For positive expectations of staying in the relationship, the model revealed a significant main effect of the investment manipulation, such that participants assigned to the high investment condition reported higher positive expectations about the target staying in the relationship than did participants in the low investment condition, $b = .22$, $se = .09$, $t(390) = 2.39$, $p = .017$, 95% CI [.04, .40]. Further, participants assigned to the growth belief condition reported significantly higher positive expectations of the target staying in the relationship than did participants assigned to the destiny belief, $b = .29$, $se = .09$, $t(390) = 3.23$, $p < .001$, 95% CI [.11, .47]. However, the two-way interaction between the investment and ITR conditions was not significant, $b = -.17$, $se = .18$, $t(389) = -.92$, $p = .360$, 95% CI [-.52, .19].

Expectations of Leaving. For negative expectations of leaving the relationship, as predicted, participants assigned to the high investment condition reported significantly higher negative expectations about the target leaving the relationship than did participants in the low investment condition, $b = .19$, $se = .09$, $t(390) = 2.14$, $p = .033$, 95% CI [.02, .37]. As well, as predicted, participants assigned to the growth belief condition reported significantly higher negative expectations of the target leaving the relationship than did participants assigned to the destiny belief condition, $b = .24$, $se = .09$, $t(390) = 2.75$, $p = .006$, 95% CI [.07, .42]. However, the two-way interaction between the Investment and ITRs conditions was not significant, $b = -.27$, $se = .18$, $t(389) = -1.53$, $p = .127$, 95% CI [-.62, .08].

For positive expectations of leaving the relationship, there were no significant main effects of either the investments manipulation, $b = -.03$, $se = .10$, $t(390) = -.29$, $p = .770$, 95% CI [-.23, .17], or the ITR manipulation, $b = -.16$, $se = .10$, $t(390) = -1.56$, $p = .121$, 95% CI [-.35, .04]. But, the two-way interaction between the investment and ITR conditions was significant, $b = .42$, $se = .20$, $t(389) = 2.09$, $p = .037$, 95% CI [.03, .81] (see Figure 7). An examination of the simple effects revealed that, among participants assigned to the growth condition, there was no difference between investment conditions on positive expectations of leaving the relationship, $F(1, 389) = 1.66$, $p = .199$. However, among participants assigned to the destiny condition, participants assigned to the high investment condition reported slightly lower anticipated happiness ($M = 2.62$, $SE = .10$) if Monique chose to leave the relationship than did participants assigned to the low investment condition ($M = 2.85$, $SE = .10$), $F(1, 389) = 2.80$, $p = .095$. Among participants assigned to the high investment condition, those who were also induced to have a growth belief ($M = 2.66$, $SE = .10$) responded similarly to those who were induced to have a destiny belief ($M = 2.62$, $SE = .09$), $F(1, 389) = .12$, $p = .729$. As for the participants who

were assigned to the low investment condition, participants assigned to the growth condition ($M = 2.48, SE = .10$) thought that Monique would be significantly less happy if she left the relationship than did those assigned to the destiny condition ($M = 2.85, SE = .10$), $F(1, 389) = 6.69, p = .010$.

Future Relationship Investment

A series of hierarchical linear regressions were conducted to assess whether the investment condition, ITR condition, or a combination of the two impacted how much time, money, or effort participants thought that the target should continue to invest in her relationship. With regards to time investment as the dependent measure, participants assigned to the high investment condition reported that Monique should invest significantly more time than did participants assigned to the low investment, $b = 6.38, se = 2.76, t(390) = 2.31, p = .021, 95\% CI [1.95, 11.81]$. The main effect of ITR condition was not significant, $b = 2.65, se = 2.76, t(390) = .96, p = .338, 95\% CI [-2.78, 8.08]$. There was, however, a significant two-way interaction between the investment and ITR conditions, $b = -14.19, se = 5.49, t(390) = -2.59, p = .010, 95\% CI [-24.97, -3.40]$. An examination of the simple effects revealed that, among participants who were in the growth condition, those who were also assigned to the high investment condition ($M = 63.55, SE = 2.83$) did not significantly differ on how much time they think should be invested in the relationship compared to those who were assigned to the low investment condition ($M = 64.41, SE = 2.71$), $F(1, 389) = .05, p = .827$. Among participants assigned to the high investment condition, those who were also induced to have a growth belief ($M = 63.55, SE = 2.83$) reported that slightly less time should be invested in the relationship, compared to those who were induced to have a destiny belief ($M = 67.85, SE = 2.60$), but the simple effect difference was not statistically significant, $F(1, 389) = 1.25, p = .263$. As for the participants who were assigned to

the low investment condition, participants assigned to the growth condition ($M = 64.41$, $SE = 2.71$) reported that she should invest more time in the relationship compared to participants who were assigned to the destiny condition ($M = 45.52$, $SE = 2.83$), $F(1, 389) = 6.37$, $p = .012$.

For money investment as the dependent measure, there was a main effect of investment condition, such that participants assigned to the high investment condition reported that Monique should invest significantly more money than did participants assigned to the low investment condition, $b = 10.64$, $se = 2.68$, $t(390) = 3.97$, $p < .001$, 95% CI [5.37, 15.91]. But the main effect of ITR condition was not significant, $b = 3.77$, $se = 2.68$, $t(390) = 1.41$, $p = .160$, 95% CI [-1.50, 9.04]. Further, the two-way interaction between the investment and ITRs was not significant, $b = -6.33$, $se = 5.36$, $t(389) = -1.18$, $p = .238$, 95% CI [-16.87, 4.20].

For effort investment as the dependent measure, there was a marginally significant main effect of investment condition in this model, such that participants assigned to the high investment condition reported that Monique should invest slightly more effort than did participants assigned to the low investment condition, $b = 5.71$, $se = 2.91$, $t(389) = 1.96$, $p = .051$, 95% CI [-.02, 11.43]. Consistent with the other types of investment, the main effect of ITR condition was not significant, $b = 3.69$, $se = 2.91$, $t(389) = 1.27$, $p = .205$, 95% CI [-2.03, 9.42]. The two-way interaction between the investment and ITRs was still not significant, $b = -10.20$, $se = 5.81$, $t(388) = -1.76$, $p = .080$, 95% CI [-21.62, 1.22].

Study 5 Discussion

Study 5 continued to test if ITRs interact with relationship investments to impact decisions to continue with a current course of action, or choose an alternative one, and expectations of both outcomes. Importantly, it was my only study that manipulated participants own ITRs, rather than manipulating the couple's ITRs like I did in Study 3, to test my

hypotheses. To do so I used a classic manipulation of ITRs in the form of an article from Franiuk and colleagues (2004). Otherwise, I followed a similar procedure as Study 4, with an adapted scenario to return to the high- and low- investment size framing to manipulate investments. As predicted, and as demonstrated across most of my studies, Study 5 revealed that, when there were higher investments, participants were more likely to advise the couple to stay together, rather than break-up, compared to when there were lower investments in the relationship. Further, as predicted, higher investments increased people's optimistic views (i.e., more positive expectations and fewer negative expectations) towards staying in the relationship, compared to lower investments. Similarly, when participants were guided to adopt a growth belief, they were (marginally) more likely to advise the couple to stay together, rather than end their relationship, and generally held more optimistic views of this outcome, compared to participants who were guided to adopt a destiny belief during the study. These findings depicted choosing the relational status quo in my studies, and they contribute to similar findings in prior literature that higher investment is associated with greater relationship commitment (e.g., Rusbult, 1980a; 1983; Rusbult & Martz, 1995). Further, they related to findings that stronger growth beliefs are associated with more relationship maintenance (e.g., Franiuk et al., 2002; 2004; Knee et al., 2004; Santucci et al., 2021).

Study 5 revealed, for the first time, a marginally significant interaction between investments and ITRs conditions on decisions related to continuing with the current course of action or pursuing an alternative one. However, this interaction effect seemed to be driven mostly by the participants who were assigned to the destiny and low investment conditions, such that they were the most likely to advise leaving the relationship compared to the three other groups. This finding should be interpreted with caution, though, because I did not advance

specific hypotheses about destiny belief in my research, the significance level is marginal, and it did not emerge across my other four studies. Further investigation will be needed to learn more about how destiny beliefs and investment size interact with one another given that it has not been a robust finding across my studies.

There were also two significant interactions between investment and ITRs conditions that emerged for outcome expectations, one for negative expectations of staying (marginally significant), and one for positive expectations of leaving. In both instances, the results suggested that, when in the high investment condition, there were relatively low negative expectations of staying and low positive expectations of leaving, regardless of whether they were in the growth or destiny condition. When in the low investment condition, however, participants in the growth condition had fewer negative expectations of staying, and fewer positive expectations of leaving, than did participants in the destiny condition. Additionally, my analyses revealed that higher (vs. lower) past investments made someone feel like more time, money, and effort should be invested in the relationship going forward which is consistent with past findings, particularly within the sunk cost literature, that people tend to continue to invest in the current path on account of past investments (e.g., Arkes & Blumer, 1985).

Like Study 4, I overall observed that most participants advised the couple to stay together rather than break-up, which indicated a strong progression bias (Joel & MacDonald, 2021). It would have been ideal to have more variability between stay and leave responses, but some significant differences did indeed emerge, including ones related to leaving. This preference towards staying, though, may have been informed by their perception that the conflict described in the scenario was merely a short-term conflict, rather than something indicating a longer-term issue in the relationship. As I noted before, a limitation of this study was that I did not adapt the

conflict described in the scenario used in Study 4 before using it this study to try to balance out the stay and leave decisions across the sample. My results depicted a lot of congruencies between participants stay/leave advice, their interpretation of the conflict, and what they reported that they would do if they were in the scenario. These congruencies between the advice they gave to the couple and what they thought they would do themselves provided some indication that this indirect measure of decision-making for one's own relationship (via the advice they give to someone else) might be somewhat effective. However, more research would be needed to test these effects with decision making within someone's own relationship.

Although I was able to detect significant differences between my two ITRs conditions, it is worth acknowledging some potential limitations of the Franiuk and colleagues (2004) manipulation content. Specifically, there seemed to be some overlap in the constructs across the conditions: in the destiny condition, there are some details that sounded more like growth belief and deliberate actions towards the relationship (e.g., "Believing that one's relationship is destined for success may lead people to act in ways that serve to maintain their relationship."), and there are some details that sounded more like destiny belief in the growth condition (in addition to negative outcomes, like breaking up temporarily, that did not appear in the destiny condition). The constructs are much more distinct in measures of growth and destiny beliefs (e.g., Knee et al., 2003). This means that it is possible that participants may have received different impressions about relationships from articles than simply either a growth belief or a destiny belief. Unfortunately, I did not include a manipulation check in Study 5 to be able to determine if a growth belief was elicited in the growth condition, and a destiny belief in the destiny condition. I assumed that using an article from past studies would have had the intended

effect, but it is possible that participants may have had different impressions of the kinds of relationships described in the articles than expected.

In conclusion, Study 5 further demonstrated the hypothesized effect of investments driving people towards continuing with the relationship status quo, over choosing an alternative, and sometimes growth beliefs had a similar effect. But, critically, even when a (marginally) significant interaction between investment and ITRs condition emerged, the examination of the simple effects did not support my hypothesis that growth beliefs and high investment would prompt the most endorsement of continuing with the status quo (vs. pursuing an alternative). This provided further validation that ITRs do not seem to play a meaningful role in shaping how investments impact these decisions, contrary to my central hypothesis. Taken together, I considered these results from Study 5 as further support to my past studies that investment size is more meaningful than growth beliefs, or ITRs more generally, to decisions to continue with the current course of action (vs. choose an alternative one). In the general discussion, I will elaborate on what my findings suggest for how important ITRs – whether chronic or induced – appear to be in relationship decision-making.

General Discussion

Across these five online experiments, I examined a novel and theoretically-derived research question of whether people's implicit theories of relationships moderate the role of relationship investments on commitment-related relationship decisions (e.g., continuing with the current course of action, or choosing an alternative). I tested the hypotheses that higher (vs. lower) relationship investments (or past vs. future investments in Study 4) would influence people's willingness to continue with the current course of action versus pursuing a rewarding alternative course, and that this effect would be enhanced amongst people with a stronger growth

belief (versus a weaker growth belief and versus a stronger destiny belief). Related, I predicted that higher investment and stronger growth beliefs would drive higher positive and lower negative expectations about the continuing with the current outcome (vs. choosing the alternative). These hypotheses were tested with a variety of different operationalizations of relationship investment, using both measured and manipulated ITRs, and across two types of relationship-related decisions (i.e., stay vs. leave decisions, as well as decisions that do not involve the relationship potentially ending).

Across all studies, the most robust finding was that higher (vs. lower) relationship investments predicted more endorsement of continuing with the current course of action, rather than choosing an alternative course that potentially offers better outcomes, which is consistent with two main bodies of literature. Within relationship science, it is well-documented that perceived investments contribute to relationship commitment (e.g., Goodfriend & Agnew, 2008; Rusbult & Martz, 1995; Rusbult et al., 1998). This work also contributes to understanding of how the sunk-cost effect may affect judgments in interpersonal contexts (Olivola, 2018; Rego et al., 2018). Beyond these replications, my research sought to extend this well-established effect of investments on commitment-related decisions contributes by identifying how the lay beliefs that people have about relationships shape the meaning that is placed on these investments. In the end, my main contribution to these literatures is that ITRs, particularly growth beliefs, are not significant moderators of how relationship investments influence decisions, or expectations towards continuing with the relational status quo or not. This suggests that ITRs have little bearing on the weight that people place on relationship investments (a type of effort) when making decisions about their relationship. Instead, my results further illustrate that investment size is of primary importance in these decisions.

Main Contributions of this Work

Although the five studies presented here garnered no support for my central hypothesis that this tendency would be exaggerated among those with stronger (vs. weaker) growth beliefs, the current set of studies still contribute to the relationship science literature by advancing theories across the subtopic areas of decision making (e.g., Arkes & Blumer, 1985; Olivola, 2018; Thaler, 1980), investment and commitment (e.g., Rusbult, 1980a; Rusbult et al., 1998; Thibaut & Kelley; 1959), and implicit theories of relationship (e.g., Franiuk et al., 2002; Knee, 1998; Knee et al., 2003; 2004). Namely, I tested an interesting theoretical question about the potential interactive effect of relationship investments and ITRs, particularly growth beliefs, on important decisions that people make about their romantic relationships. To my knowledge, there had not previously been a direct examination of the relationship of these variables but it had seemingly been inferred (Knee et al., 2004). I used well-powered samples of participants and rigorous methods to test my hypotheses, such as manipulating relationship investments using various operationalizations (e.g., sunk cost theory and investment model framing), both measuring and manipulating implicit theories of relationships, and including both dichotomous and continuous outcome measures to assess relationship decision-making processes and expectations.

Although it would have been ideal to have my hypotheses better supported, my research still provides a valuable contribution to the field of relationship science to know that implicit theories of relationships do not moderate how investments influence relationship decisions. Some possible reasons why my hypothesized interaction did not emerge was that maybe people with stronger growth beliefs are overall more prone to maintain the status quo and therefore it seemed unnecessary to use investments to inform their decision to continue; however, if this was

the case, I would have expected to see a more robust effect of growth beliefs on the decisions participants made, like I did for investments. Another possibility as to why growth beliefs did not make people more sensitive to relationship investments is that the effort associated with making the investments was less salient in my scenarios; therefore, people with stronger growth beliefs may not have factored the investments into their decision making like I hypothesized.

Related to this last point, the lack of an effect of growth beliefs on the interpretation of investments suggests that ITRs theory might need to be refined with regards to how effort is interpreted by people who hold these beliefs. Making a variety of investments in a relationship, as illustrated throughout my studies, should be interpreted as ways to cultivate a relationship (e.g., Knee, 1998), put in effort, and evolve to meet the needs of one's partner and relationship over time (e.g., Franiuk et al., 2004). Therefore, investments should be meaningful to people who hold strong growth beliefs, and interact with one another to impact their decisions. However, my results across five studies did not reliably demonstrate that this interpretation of investments occurred among people with growth beliefs, which suggests that these beliefs may not inform relationship decisions in the way that past literature would suggest.

Another contribution of my work is that, by using sunk cost framing of relationship investments in several of my experiments, it positioned my research among the few studies that have examined sunk costs within romantic relationship contexts and expanded this body of work (e.g., Coleman, 2009; Goodfriend & Agnew, 2008; Rego et al., 2018). Further, by using sunk cost framing as a way of operationalizing relationship investment, it was a unique opportunity for my research to examine the theoretical similarities between this conventionally economic theory (Arkes & Blumer, 1985) and relationship science theory in Rusbult's Investment Model of Commitment (Rusbult, 1980a). For example, the past vs. future orientation of the investments

(Goodfriend & Agnew, 2008), the type of investment (i.e., financial, emotional, effortful), and the presence of relationship conflict were ways that I was able to intertwine these theories and expand on them in my research.

Both ITRs and investments can have a lot of adaptive, buffering characteristics within relationship contexts which are important in supporting partners while navigating challenges and obstacles together (e.g., Knee et al., 2004; Rusbult et al., 1998; Thompson et al., 2020). However, in the context of less rewarding relationship contexts, the tendency to remain committed to a current course of action could be detrimental, which was why I wanted to pursue this line of inquiry. In addition to the novelty of examining this research question and hypotheses, my studies revealed that the role of ITRs is much less impactful in relationship decision-making compared to investment size. Indeed, ITRs seemed to overall be less impactful in relationship decision-making than what was previously suggested, or much less reliably so. Based on my rigorous evaluation of this hypothesis, and finding that it was ultimately not supported, the results from this body of work are just as valuable to these research domains as they would have been if the hypothesis had been supported.

Limitations and Future Directions

In each of the present studies, all the scenarios were hypothetical and were about another couple (i.e., not about the participants' own relationship). This limited the ability to claim with certainty that this would be the same decision they would make using a measure of actual behaviour (e.g., Bostyn et al., 2018), or the decision they would make within their own relationship. However, in Study 4 and Study 5, I asked participants to report what they would choose to do if they were in the same circumstances that were described in the scenario. These results indicated that participants believed their own decision would have been consistent with

the advice they gave to the target couple, suggesting that this indirect look into personal decision making was effective. Further, recent research has demonstrated that stay/leave decisions can be examined in relationships that are either considering a romantic break-up (e.g., Joel et al., 2018) or ones that are not considering one (e.g., Machia & Ogolsky, 2021), with similar results.

I believe the benefits of using the hypothetical scenarios in my research outweighed the limitations for several reasons. First, by using hypothetical scenarios about another couple, compared to probing conflicts within participants' own relationship, I reduced the risk of potential reactance and sensitivities on account of my scenarios. Indeed, the use of hypothetical and indirect measures of decision making allowed me to examine stay-leave decision making experimentally in ways that may have been practically and ethically impossible with participants' actual partners. That is, it would have been very challenging to limit recruitment to only couples who were in relationships where the status quo is objectively no longer rewarding and an alternative is objectively more rewarding. Related, the identification of relationships where the most adaptive decision is to leave or pursue an alternative path is often not straight forward. Indeed, partners themselves often deliberate for quite some time about whether to stay in or leave a relationship (e.g., Joel et al., 2018; Vanderdrift et al., 2009), and it is often not known what decision is "best"; therefore, this would be exceptionally challenging to do as a researcher.

A second main benefit to using hypothetical scenarios was because I used online recruitment and survey response methods which necessitated the measurement of self-reported decision behaviour intentions (vs. measuring observable behaviours that people are doing in a real-world situation) as a way of measuring relationship decision-making. This approach also enabled more control over what participants used to inform their decision, because they were

limited to the information provided in the scenario, rather than including their historical knowledge and bias towards their own relationship. Of course, future research could try other scenarios or research activities that could enable the examination of how much variance in decision making investments and ITRs account for, in light of many other meaningful factors that could influence these decisions to continue with the relational status quo or not (e.g., relationship satisfaction, self-identity overlap, other social connections associated with the relationship, etc.).

Something that I observed across my studies, particularly in Studies 1, 2, and 3, was the low internal consistency of the eleven growth belief subscale items, $\alpha = .69$, $\alpha = .66$, and $\alpha = .63$, respectively. This was a limitation across those studies and begs the question of how well did this measure capture growth beliefs in those study samples. In Study 4 the internal consistency was higher $\alpha = .86$, and I found consistently significant main effects of growth beliefs with the same measure of ITRs. This offers some support that it is possible that the lower subscale reliability contributed to the lack of an effect of growth beliefs in my earlier studies, but a more systematic evaluation across many samples would be needed to make this conclusion. The eleven destiny belief subscale items had the following internal consistency values $\alpha = .84$ (S1), $\alpha = .83$ (S2), $\alpha = .70$ (S3), and $\alpha = .92$ (S4), therefore the reliability values of the destiny items were consistently higher than that of growth beliefs across my studies. I did not measure ITRs in Study 5, I only manipulated them.

It is possible that these differences in internal consistency could be explained by sample composition or recruitment methods (i.e., Studies 1-3 used undergraduate student samples, and Studies 4-5 used Cloud Research samples which are typically older adults compared to student samples). This seems plausible because, across my studies, not only was the reliability of the

growth belief items consistently lower than the destiny belief items, but the internal consistency of both of these constructs was also consistently lower overall in the undergraduate student samples compared to the older adult sample. As an initial attempt to examine this possibility, I reviewed the reported internal consistency values of growth and destiny belief subscales in 12 studies from eight publications that used the same 22-item ITRs scale (Knee et al., 2003).²¹ The five studies that used an undergraduate student sample had an average growth subscale reliability of $\alpha = .77$ and an average destiny subscale reliability of $\alpha = .82$ (i.e., Finkel et al., 2007 Study 1; Hui et al., 2012 Study 3; Knee et al., 2004 Study 1-2; Weigel et al., 2016 Study 1). In comparison, the five studies that used an Amazon's Mechanical Turk sample, comparable to Cloud Research, had an average growth subscale reliability of $\alpha = .86$ and an average destiny subscale reliability of $\alpha = .90$ (i.e., Dailey et al., 2020 Study 1; Mattingly et al., 2019 Studies 1-3; and Maxwell et al., 2017 Study 1-2). Although this was not an exhaustive search across all publications that used the Knee and colleagues (2003) scale, it provides some preliminary support that the scale items might be less reliable in younger samples compared to older ones.

The discussion about age differences in ITRs relates to the question of whether or not ITRs change or remain stable over time. To my knowledge, there has not yet been an empirical examination of whether implicit theories of relationships change or remain stable over time, nor has this been examined among implicit theories of other non-relationship domains, aside from a set of studies that demonstrated the ability for implicit theories of personality to be malleable based on context and motivation (Leith et al., 2014). Knee's (1998) and Mattingly and

²¹ Dailey et al., 2020 (S1: growth $\alpha = .86$; destiny $\alpha = .90$); Finkel et al., 2007 (S2: growth $\alpha = .80$; destiny $\alpha = .85$); Hui et al., 2012 (S3: growth $\alpha = .73$; destiny $\alpha = .70$); Knee et al., 2003 (S1: growth $\alpha = .74$; destiny $\alpha = .82$); Knee et al., 2004 (S1: growth $\alpha = .73$; destiny $\alpha = .82$; S2: growth $\alpha = .75$; destiny $\alpha = .84$); Mattingly et al., 2019 (S1: growth $\alpha = .86$; destiny $\alpha = .90$; S2: growth $\alpha = .63$; destiny $\alpha = .74$; S3: growth $\alpha = .85$; destiny $\alpha = .91$); Maxwell et al., 2017 (S1: growth $\alpha = .87$; destiny $\alpha = .90$; S2: growth $\alpha = .85$; destiny $\alpha = .91$); Weigel et al., 2016 (S1: growth $\alpha = .86$; destiny $\alpha = .87$).

colleagues (2019) included a longitudinal study in their papers and both measured of growth and destiny beliefs at two time points, one two months later (Knee, 1998) and the other was nine months later (Mattingly et al., 2019). Both studies found that self-reported growth and destiny beliefs, on average, remained similar across time in their samples. Although this provides some support for these beliefs being stable, the available evidence only captured a short period of time (i.e., months vs. years) and has not looked at these ITRs across different age cohorts. In an undergraduate student sample, it is possible that lower reliability of the ITRs measure is because at a younger age, individuals are still developing and understanding their self-identity and beliefs about the world (e.g., Arnett, 2000), compared to an older sample of adults, and they are having many new experiences in romantic relationships. Other research has demonstrated that self-concept clarity – possessing a clear and consistent understanding of one’s self and identity – has a curvilinear association with age such that there was significantly greater self-concept clarity with age for young adults (19–39-year-olds) and middle-aged (40-59-year-olds) participants and significantly less self-concept clarity with age for older adults (60-86-year-olds; Lodi-Smith & Roberts, 2010). Taken together, further research should more rigorously examine the psychometric properties of the 22-item ITRs scale by Knee and colleagues (2003) across different age groups and types of participant recruitment methods, as well as across time, to inform the utility of this measure and expand our collective understanding of implicit theories of relationships and across domains.

The role of conflict in my current research was to set the conditions to be able to test my hypotheses, namely as a signal that things were not going well in the current context. That is, there had to be a reason why the individual(s) in the scenario were considering whether to continue with the current course of action or choose an alternative one, otherwise posing this

question to participants would not have made sense. For that reason, my research did not seek to understand how conflict played a role in the decision making per se, and this is why conflict was not a focal point of the interpretation of the results. Nonetheless, it is possible that the conflicts that were cited in my scenarios were too ambiguous or “insufficiently problematic” to definitively test the boundary conditions of a propensity towards continuing with the current course of action over an alternative one, or progression bias (Joel & MacDonald, 2021). For that reason, I am unable to conclude that larger investment size (and sometimes stronger growth beliefs) guides people to stay in *objectively* worse relationships or chose *objectively* worse courses of actions. Further research would have to examine scenarios that involve more intense forms of conflict in order to make a claim like that. Related, future research could manipulate the severity of the conflict (e.g., no conflict vs. low vs. high), to see how that might interact with the hypothesized ITRs and investment size interaction. Further, building on my questions about how participants interpreted the conflict in the scenario from Studies 4 and 5, it would be interesting to see if including some sort of indication of the likelihood of this conflict being resolved successfully could influence my results. Namely, would the information that the likelihood of resolving the conflict was low (vs. high) reduce the progression bias that growth beliefs and higher investment contexts tend to promote? A much larger sample would be needed to ensure there is enough power to test this. There could also be targeted recruitment of only individuals with strong growth beliefs or that belief was induced across all participants.

In acknowledging this, however, my research added value by examining these decisions in circumstances in which the “right” decision was uncertain (e.g., whether there would be conflict resolution or not). In many cases, it is unclear what the future will bring and when it is the right time to decide, and what that decision “ought” to be. Therefore, having that grey area

built in afforded an opportunity to see how investment size and ITRs moderate to predict decisions, rather than having the answer to leave or change a course of action be more obvious. This context reflects real life such that the “right” decision is often unknown at the time a decision is being formed or is made, and it is virtually impossible for someone to have all the information to make a “perfect” decision. Therefore, assessing decision-making in these ambiguous conflict scenarios had some resemblance to common, realistic decision-making scenarios.

Another limitation to note is that I did not pre-test my manipulations, or consistently use manipulation checks in this set of studies. This was less of a concern when I used manipulations that were based on prior research (e.g., Study 1 and Study 2 sunk cost/investment framing, Study 5 ITRs manipulation from Franiuk et al., 2004), or when there were larger discrepancies between the size of investments. I included manipulation checks in Study 3 (related to my ITRs manipulation), and in Study 4 (related to my past/future investments manipulation) both of which I developed for those studies. I acknowledge the importance of knowing if the manipulations used actually shifted the attitudes or perceptions as intended, as opposed to relying on assumptions. In lieu of manipulation checks, though, participant responses suggested that the manipulations captured the intended constructs sufficiently. A related limitation was that I did not include any control conditions when using manipulations in my current set of studies. Therefore, I cannot completely rule out that the changes that I observed were a direct result of the conditions participants were assigned to and not because of some other confounding factor. Acknowledging this, I remain confident that the consistent effects that emerged between the conditions across my studies are at least largely caused by the manipulation used. Future

research could include a control condition alongside my experimental conditions to confirm or deny whether this assumption is justified in the data.

Finally, I acknowledge the limitation of using online non-probability, convenience samples across my studies – both undergraduate student samples (Study 1, Study 2, and Study 3) and samples from panel providers such as Amazon’s Mechanical Turk (MTurk®) through Cloud Research (Study 4 and Study 5) – which tend to be predominantly white, educated, industrialized, rich, and democratic (“WEIRD” samples; Henrich et al., 2010). Using these types of samples limits the generalizability of the results, compared to more representative samples, especially to other countries outside of North America which was where participants from the current studies resided. Although there are advantages to using these methods of recruitment, such as rapid and inexpensive data collection and reaching participants that you may not have otherwise been able to (e.g., Buhrmester et al., 2011), there are also drawbacks. Evidence from Goodman and colleagues (2013) suggested that MTurk® participants are less likely to pay close attention to experimental materials than are participants recruited via other means, which is why I included open-ended response options as well as data quality checks (e.g., attention and manipulation checks). As I mentioned in Study 2, and could be applicable across my studies, my scenarios described quite an individualistic and Westernized perspective of relationships and relationship decisions, especially by not taking into consideration the feelings of other people who would have been impacted by the decisions made (e.g., the other romantic partner, their families).

Implications

Although my hypothesized interaction was not supported across my five studies, there are nonetheless some potential practical implications of my results for clinical psychologists,

therapists, and other related practitioners. My research overall demonstrated that the lay beliefs that people have about relationships do not make them more or less sensitive to the investments made in their relationship; rather, the investments alone seem to be relatively more impactful when making decisions. For professionals who are supporting their patient through a decision between continuing with the current course of action, or choosing an alternative one, my findings suggest that the focus should be less on their patient's beliefs about relationships and instead focus on investments. That is, if a professional perceives that it is in the best interest of their patient to continue (e.g., based on their developed understanding of their patient, their relationship history, past attempts to resolve the conflict or navigate similar situations), then there could be a benefit to guiding the patient to consider what all they have invested in the relationship, or the current course of action, because that will increase the likelihood they will choose to continue (vs. choose an alternative). However, if it does not seem to be in the patient's best interest to continue, the professional could instead support their patient in identifying how their needs could be met in other ways (e.g., through close others in their social network, alternative courses of action), by de-emphasizing the investments they have made, or helping them to consider how they may not lose everything entirely (e.g., if in the context of ending a relationship where children are involved, considerations like joint custody and co-parenting rather than sole custody of one parent could help reduce all-or-nothing thinking). As a best practice, I recommend that these interventions, or any others that stem from this research, are tested in real-world, clinical settings before being widely implemented.

Conclusion

In summary, the current set of studies examined if implicit theories about relationships could shape how investments influence decision making in relationships, specifically decisions

to continue with the current course of action, or choose an alternative one. Across my five studies, I tested the same general hypotheses that higher (vs. lower) relationship investments would influence when people chose to continue with the current course of action (vs. pursue an alternative one), and that this effect would be enhanced amongst people with a stronger growth belief. Related, I predicted that higher investment and stronger growth beliefs would drive higher positive and lower negative expectations about continuing with the current outcome (vs. choosing the alternative). Despite the lack of my hypothesized interaction effect, the overall pattern of results supported my hypotheses, and they align with prior research that has examined the impact of these constructs on relationship outcomes individually (e.g., Knee et al., 2003; Rusbult et al., 1998). Overall, the results suggested investment size has a much more robust effect on shaping relationship decisions following relationship conflict, whereas implicit theories of relationships do not seem to make someone more, or less, sensitive to investments made in the relationship when making these decisions despite what has been suggested in previous research (Knee et al., 2004). The results of these five studies contributes primarily to the relationship science literatures by demonstrating that these lay beliefs that people have about relationships do not moderate how they interpret investments when making decisions about continuing with a current course of action in the relationship, versus choosing an alternative one.

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Tables

Table 1.1

Summary of key study variables, hypotheses, and conclusions for the main outcome measure

Study	ITRs	Investments	Outcomes (Current vs. Alternative)	Hypotheses ^g	Supported
1	Measured ^a	Manipulated – low vs. high ^d	Stay vs. Leave	Participants assigned to the <i>high investment condition</i> would be more likely to endorse staying (vs. leaving), compared to participants assigned to the <i>low investment condition</i> .	No
				Participants with stronger growth beliefs would be more likely to endorse staying (vs. leaving), compared to participants with weaker growth beliefs.	No
				Among participants with stronger (vs. weaker) growth beliefs, those assigned to the <i>high investment condition</i> would be more likely to endorse staying (vs. leaving), compared to those who were assigned to the <i>low investment condition</i> .	No
2	Measured ^a	Manipulated – low vs. high ^d	Wedding vs. Elope	Participants assigned to the <i>high investment condition</i> would be more likely to endorse proceeding with planned wedding (vs. eloping), compared to participants assigned to the <i>low investment condition</i> .	Yes
				Participants with stronger growth beliefs would be more likely to endorse proceeding with planned wedding (vs. eloping), compared to participants with weaker growth beliefs.	No
				Among participants with stronger (vs. weaker) growth beliefs, those assigned to the <i>high investment condition</i> would be more likely to endorse proceeding with planned wedding (vs. eloping), compared to those who were assigned to the <i>low investment condition</i> .	No
3	Manipulated ^b	Manipulated – low vs. high ^e	Stay vs. Leave	Participants assigned to the <i>high investment condition</i> would be more likely to advise the couple to stay together (vs. leave), compared to participants assigned to the <i>low investment condition</i> .	Yes

				Participants assigned to the <i>growth condition</i> would be more likely to advise the couple to stay together (vs. leave), compared to participants assigned to the <i>destiny condition</i> .	No
				Among participants assigned to the <i>growth condition</i> (vs. <i>destiny condition</i>), those assigned to the <i>high investment condition</i> would be more likely to endorse staying (vs. leaving), compared to those who were assigned to the <i>low investment condition</i> .	No
4	Measured ^a	Manipulated – past vs. future ^f	Stay vs. Leave	Participants assigned to the <i>past investment condition</i> would be more likely to endorse staying (vs. leaving), compared to participants assigned to the <i>future investment condition</i> .	No
				Participants with stronger growth beliefs would be more likely to endorse staying (vs. leaving), compared to participants with weaker growth beliefs.	Yes
				Among participants with stronger (vs. weaker) growth beliefs, those assigned to the <i>past investment condition</i> would be more likely to endorse staying (vs. leaving), compared to participants assigned to the <i>future investment condition</i> .	No
5	Manipulated ^c	Manipulated – low vs. high ^e	Stay vs. Leave	Participants assigned to the <i>high investment condition</i> would be more likely to advise the couple to stay together (vs. leave), compared to participants assigned to the <i>low investment condition</i> .	Yes
				Participants assigned to the <i>growth condition</i> would be more likely to advise the couple to stay together (vs. leave), compared to participants assigned to the <i>destiny condition</i> .	No (marg.)
				Among participants assigned to the <i>growth condition</i> (vs. <i>destiny condition</i>), those assigned to the <i>high investment condition</i> would be more likely to endorse staying (vs. leaving), compared to those who were assigned to the <i>low investment condition</i> .	No (marg.)

^a Chronic growth and destiny beliefs were measured using Knee and colleagues’ (2003) scale

^b The manipulation was developed for the purposes of this study

^c The manipulation was adapted slightly from Franiuk and colleagues (2004)

^d The structure of the manipulation resembled sunk cost framing

^e The structure of the manipulation resembled Investment Model framing

^f The content of this manipulation was designed using the items from the Goodfriend and Agnew (2008) scale

^g Endorsement was operationalized as choosing to advise the couple to continue with the current outcome, rather than choose an alternative outcome, as well as report more optimistic expectations of continuing (vs. choosing the alternative)

Table 2.1

Sociodemographic Characteristics of the Participants in Study 1 (N = 335)

Sample Characteristics	<i>n</i>	%
Gender Identity ^a		
Man	45	13.5
Woman	286	85.6
Other gender identity (e.g., transgender, gender non-binary)	3	0.9
Ethnicity ^b		
Asian	43	12.8
Black	7	2.1
East Indian	16	4.8
Hispanic	9	2.7
Middle Eastern	15	4.5
White	214	63.9
Other ethnicity or racial identity (e.g., Indigenous, multiracial)	28	8.4
Relationship Status		
Casually dating	44	13.1
Exclusively dating	113	33.7
Cohabiting	5	1.5
Married	10	3.0
Single	157	46.9
Other relationship status (e.g., divorced or separated, engaged)	6	1.8
Sexual Orientation ^c		
Heterosexual	299	89.3
Bisexual	20	6.0
Undecided or Questioning	8	2.4
Other sexual orientation (e.g., gay, lesbian, asexual)	6	1.8

^a One participant did not report details about their gender identity. In the survey, the labels were “Male”, “Female”, “Transgender Female”, “Transgender Male”, “Gender Non-Binary or Gender Non-Conforming” but they have been relabelled in the results reporting to more accurately reflect gender identity terminology. ^b Three participants did not report their ethnicity. ^c Two participants did not report their sexual orientation.

Table 2.2

Descriptive statistics of the outcome expectations individual measures in Study 1

	<i>N</i>	<i>M</i>	<i>SD</i>
... how risky is it for Kelsey to decide to get married to Mark and continue their relationship?	334	3.39	.98
... how risky is it for Kelsey to decide to not get married to Mark, thus ending their relationship?	335	3.14	1.09
... how likely do you think Kelsey will regret her decision in the future if she decides to get married to Mark and continue their relationship?	332	3.50	.89
... how likely do you think Kelsey will regret her decision in the future if she decides to not get married to Mark, thus ending their relationship?	333	2.95	.89
... how happy do you think Kelsey will be in the future if she decides to get married to Mark and continue their relationship?	334	2.59	.93
... how happy do you think Kelsey will be in the future if she decides to not get married to Mark, thus ending their relationship?	334	3.49	.93

Note 1. All questions began with, “Given the circumstances,”

Note 2. Response scale was 1 to 5, which higher scores indicating greater feelings of risk/regret/happiness.

Table 2.3

Pearson correlation matrix for continuous variables in Study 1 (N = 335)

	1.	2.	3.	4.	5.	6.
1. Destiny Belief	--					
2. Growth Belief	-.050	--				
3. Negative Expectation of Staying	.082	-.007	--			
4. Negative Expectation of Leaving	-.016	.098	-.52***	--		
5. Positive Expectation of Staying	-.049	.069	-.60***	.50***	--	
6. Positive Expectation of Leaving	.059	.037	.51***	-.47***	-.42***	--

p* < .05. *p* < .01. ****p* < .001

Table 2.4

Descriptive statistics of the independent coded “focus” variables in Study 1 (N = 335), Study 2 (N = 322), and Study 3 (N = 377)

Focus	Study 1	Study 2	Study 3
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Past	1.92 (.81)	2.16 (.75)	2.19 (.72)
Future	2.29 (.77)	2.24 (.78)	2.03 (.76)
Money	1.44 (.81)	1.85 (.91)	1.01 (.10)
Emotions	2.45 (.68)	2.15 (.75)	2.25 (.67)
Effort	1.93 (.78)	2.13 (.77)	2.07 (.78)
Time	1.62 (.73)	1.81 (.78)	1.95 (.78)

Note. The scale used by the independent coder ranged from 1 = not at all considered to 3 = strongly considered.

Table 2.5

Binary logistic regression predicting advice given with the coded focus variables in Study 1 (N = 335)

Predictor	<i>B (SE)</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Exp(B)</i>	95% CI
Past	-.32 (.17)	3.80	1	.051	.72	[.52, 1.00]
Future	.10 (.17)	.33	1	.563	1.10	[.79, 1.54]
Money	.51 (.21)	5.98	1	.014	1.67	[1.11, 2.51]
Emotions	.55 (.19)	8.31	1	.004	1.73	[1.19, 2.50]
Effort	-.68 (.18)	14.15	1	< .001	.51	[.36, .72]
Time	-.23 (.18)	1.61	1	.204	.80	[.56, 1.13]

Table 2.6

Linear regression analyses predicting outcome expectations with the coded focus variables in

Study 1 (N = 335)

	Negative Expectation Stay <i>B (SE)</i>	Negative Expectation Leave <i>B (SE)</i>	Positive Expectation Stay <i>B (SE)</i>	Positive Expectation Leave <i>B (SE)</i>
Past	-.07 (.05)	.18 (.05) ***	.08 (.06)	-.13 (.06) *
Future	.09 (.06)	.04 (.06)	.003 (.07)	.002 (.07)
Money	.12 (.06) *	-.09 (.05) †	-.21 (.06) ***	.11 (.06) †
Emotions	.27 (.06) ***	-.12 (.06) †	-.16 (.08) *	.22 (.07) **
Effort	-.13 (.06) *	.20 (.06) ***	.16 (.07) *	-.12 (.07) †
Time	-.04 (.06)	.02 (.06)	.04 (.07)	-.03 (.07)

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3.1

Sociodemographic Characteristics of the Participants in Study 2 (N = 322)

Sample Characteristics	<i>n</i>	%
Gender Identity ^a		
Man	48	14.9
Woman	272	84.5
Other gender identity (e.g., transgender, gender non-binary)	2	0.6
Ethnicity ^b		
Asian	47	14.6
Black	14	4.3
East Indian	17	5.3
Hispanic	6	1.9
Middle Eastern	13	4.0
White	199	61.8
Other ethnicity or racial identity (e.g., Indigenous, multiracial)	25	7.7
Relationship Status		
Casually dating	39	12.1
Exclusively dating	143	44.4
Cohabiting	4	1.2
Married	4	1.2
Single	124	38.5
Other relationship status (e.g., engaged, friends with benefits)	8	2.5
Sexual Orientation		
Heterosexual	284	88.1
Bisexual	22	6.8
Undecided or Questioning	11	3.4
Other sexual orientation (e.g., gay, lesbian)	3	.9

^a In the survey, the labels were “Male”, “Female”, “Transgender Female”, “Transgender Male”, “Gender Non-Binary or Gender Non-Conforming” but they have been relabelled in the results reporting to more accurately reflect gender identity terminology. ^b One participant did not report details about their ethnicity.

Table 3.2

Descriptive statistics of the outcome expectations individual measures in Study 2

	<i>N</i>	<i>M</i>	<i>SD</i>
... how risky is it for Kelsey and Mark to decide to proceed with having the wedding they've been planning?	322	3.02	.83
... how risky is it for Kelsey and Mark to decide to elope?	322	2.50	1.09
... how likely do you think Kelsey and Mark will regret their decision in the future if they decide to have the wedding they've been planning?	322	2.87	.91
... how likely do you think Kelsey and Mark will regret their decision in the future if they decide to elope?	322	2.96	.95
... how happy do you think Kelsey and Mark will be if they proceed with having the wedding they've been planning?	320	2.65	1.00
... how happy do you think Kelsey and Mark will be in the future if they decide to elope?	321	3.66	.96

Note 1. All questions began with, “Given the circumstances,”

Note 2. Response scale was 1 to 5, which higher scores indicating greater feelings of risk/regret/happiness.

Table 3.3

Pearson correlation matrix for continuous variables in Study 2 (N = 322)

	1.	2.	3.	4.	5.	6.
1. Destiny Belief	--					
2. Growth Belief	.091	--				
3. Negative Expectation of Wedding	.072	-.080	--			
4. Negative Expectation of Eloping	-.014	-.013	-.31***	--		
5. Positive Expectation of Wedding	.025	.12*	-.47***	.40***	--	
6. Positive Expectation of Eloping	.003	-.058	.33***	-.48***	-.27***	--

p* < .05. *p* < .01. ****p* < .001

Table 3.4

Binary logistic regression predicting advice given with the coded focus variables in Study 2 (N = 322)

Predictor	<i>B (SE)</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Exp(B)</i>	95% CI
Past	-.54 (.17)	10.51	1	.001	.58	[.42, .81]
Future	.06 (.15)	.15	1	.695	1.06	[.79, 1.43]
Money	-.44 (.13)	11.41	1	.001	.64	[.50, .83]
Emotions	1.00 (.17)	32.93	1	< .001	2.71	[1.93, 3.82]
Effort	-.44 (.16)	7.49	1	.006	.65	[.47, .88]
Time	-.52 (.16)	11.27	1	.001	.60	[.44, .81]

Table 3.5

Linear regression analyses predicting outcome expectations with the coded focus variables in Study 2 (N = 322)

	Negative Expectation Wedding <i>B (SE)</i>	Negative Expectation Eloping <i>B (SE)</i>	Positive Expectation Wedding <i>B (SE)</i>	Positive Expectation Eloping <i>B (SE)</i>
Past	-.11 (.05) *	.13 (.06) †	.002 (.08)	-.22 (.07) **
Future	.01 (.05)	-.04 (.06)	-.10 (.07)	-.01 (.07)
Money	-.04 (.04)	.12 (.05) *	-.04 (.06)	-.02 (.06)
Emotions	.08 (.05)	-.28 (.06) ***	-.32 (.07) ***	.22 (.07) **
Effort	-.06 (.05)	.08 (.06)	.04 (.07)	-.11 (.07)
Time	-.14 (.05) **	.16 (.06) *	.12 (.07)	-.10 (.07)

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4.1

Sociodemographic Characteristics of the Participants in Study 3 (N = 377)

Sample Characteristics	<i>n</i>	%
Gender Identity ^a		
Man	100	26.5
Woman	273	72.4
Other gender identity (e.g., transgender, gender non-binary)	3	0.8
Ethnicity ^b		
Aboriginal/Native	8	2.1
Asian	42	11.1
Black	20	5.3
East Indian	20	5.3
Hispanic	7	1.9
Middle Eastern	21	5.6
White	227	60.2
Other ethnicity or racial identity (e.g., South Asian, multiracial)	30	8.0
Relationship Status		
Casually dating	74	19.6
Exclusively dating	150	39.8
Engaged	4	1.1
Cohabiting	6	1.6
Married	9	2.4
Single	124	32.9
Other relationship status (e.g., divorced or separated, non-exclusive)	10	2.6
Sexual Orientation ^c		
Heterosexual	331	87.8
Lesbian	7	1.9
Bisexual	21	5.6
Undecided or Questioning	8	2.1
Other sexual orientation (e.g., gay, pansexual)	7	3.0

^a One participant did not report details about their gender identity. In the survey, the labels were “Male”, “Female”, “Transgender Female”, “Transgender Male”, “Gender Non-Binary or Gender Non-Conforming” but they have been relabelled in the results reporting to more accurately reflect gender identity terminology. ^b Two participants did not report details about their ethnicity. ^c Three participants did not report their sexual orientation.

Table 4.2

Descriptive statistics of the outcome expectations individual measures in Study 3

	<i>N</i>	<i>M</i>	<i>SD</i>
... how risky is it for Emily to continue her relationship with Ben?	375	2.80	1.14
... how risky is it for Emily to decide to break-up with Ben and pursue a relationship with James?	376	3.86	.95
... how likely do you think Emily will regret her decision in the future if she decides to continue the relationship?	374	3.14	.85
... how likely do you think Emily will regret her decision in the future if she decides to end the relationship?	375	3.33	.81
... how happy do you think Emily will be in the future if she decides to continue the relationship?	376	3.09	.93
... how happy do you think Emily will be in the future if she decides to end the relationship?	376	3.25	.85

Note 1. All questions began with, “Given the circumstances,”

Note 2. Response scale was 1 to 5, which higher scores indicating greater feelings of risk/regret/happiness.

Table 4.3

Pearson correlation matrix for continuous variables in Study 3 (N = 377)

	1.	2.	3.	4.	5.	6.	7.
1. Destiny Belief	--						
2. Growth Belief	-.026	--					
3. Negative Expectation of Staying	.14**	-.056	--				
4. Negative Expectation of Leaving	-.11*	.091	-.42***	--			
5. Positive Expectation of Staying	-.13**	.13*	-.58***	.45***	--		
6. Positive Expectation of Leaving	.14**	-.081	.32***	-.39***	-.28***	--	
7. Future Time Investment	-.072	.16**	-.41***	.38***	.42***	-.30***	--

p* < .05. *p* < .01. ****p* < .001

Table 4.4

Summary table of separate binary logistic regressions predicting advice given with the coded focus variables in Study 3 (N = 377)

Predictor	<i>B (SE)</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Exp(B)</i>	95% CI
Past	-.94 (.16)	34.60	1	< .001	.39	[.29, .53]
Future	.24 (.14)	3.15	1	.076	1.27	[.98, 1.67]
Money	-1.07 (1.16)	.86	1	.355	.34	[.04, 3.32]
Emotions	.08 (.15)	.27	1	.604	1.08	[.80, 1.47]
Effort	.08 (.13)	.40	1	.529	.92	[.71, 1.19]
Time	-.43 (.14)	10.13	1	.001	.65	[.50, .85]

Table 4.5

Separate regression analyses examining how the focus coded variables predicted expectations about the outcomes and additional time to invest in the relationship in Study 3 (N = 377)

	Negative Expectation Staying <i>B (SE)</i>	Negative Expectation Leaving <i>B (SE)</i>	Positive Expectation Staying <i>B (SE)</i>	Positive Expectation Leaving <i>B (SE)</i>	Additional Time Investment ^a <i>B (SE)</i>
Past	-.24 (.06) ***	.23 (.05) ***	.35 (.07) ***	-.12 (.06) *	8.29 (1.78) ***
Future	.10 (.06) †	-.03 (.05)	-.12 (.06) †	.06 (.06)	1.26 (1.72)
Money	-.35 (.42)	-.09 (.37)	.16 (.47)	-.51 (.43)	15.66 (12.66)
Emotions	.03 (.06)	.02 (.06)	-.03 (.07)	.05 (.07)	3.24 (1.96)
Effort	-.02 (.06)	.11 (.05) *	.05 (.06)	.03 (.06)	3.07 (1.67) †
Time	-.17 (.06) **	.18 (.05) ***	.19 (.06) **	-.10 (.06) †	4.60 (1.67) **

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

^a The time investment scale was scored on a 0 to 100 scale, with higher values indicating greater time investment.

Table 5.1

Sociodemographic Characteristics of the Participants in Study 4 (N = 399)

Sample Characteristics	<i>n</i>	%
Gender Identity ^a		
Man	181	45.4
Woman	207	51.9
Other gender identity (e.g., transgender, gender non-binary)	2	.5
Ethnicity ^b		
Indigenous (e.g., First Nations, Inuit and Métis)	5	1.3
East Asian (e.g., Chinese, Japanese, Korean)	12	3.0
Black (e.g., African, Haitian, Jamaican, Somali, Caribbean)	37	9.3
White (e.g., European, Caucasian)	285	71.4
South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)	7	1.8
South East Asian (e.g., Cambodian, Indonesian, Laotian, Filipino)	9	2.3
Latinx (e.g., Mexican, Puerto Rican, Cuban)	20	5.0
Biracial or Multiracial (please specify)	11	2.8
Prefer not to disclose	6	1.5
Relationship Status ^c		
Casually dating	26	6.5
Exclusively dating	72	18.0
Engaged	18	4.5
Cohabiting	59	14.8
Married	183	45.9
Single	20	5.0
Divorced or Separated	10	2.5
Sexual Orientation ^d		
Heterosexual	340	85.2
Gay	4	1.0
Lesbian	6	1.5
Bisexual	33	8.3
Other sexual orientation (e.g., asexual, undecided or questioning)	7	1.8

^a Nine participants did not report details about their gender identity. ^b Seven participants did not report details about their ethnicity. ^c Eleven participants did not report their current relationship status. ^d Nine participants did not report their sexual orientation.

Table 5.2*Descriptive statistics of the outcome expectations individual measures in Study 4*

	<i>N</i>	<i>M</i>	<i>SD</i>
... how risky is it for Monique to stay in this relationship?	398	2.29	.93
... how risky is it for Monique to leave this relationship?	399	3.16	1.06
... how much do you think Monique will regret her decision in the future if she decides to stay in the relationship?	398	2.62	.92
... how much do you think Monique will regret her decision in the future if she decides to leave the relationship?	399	3.51	.96
... how happy do you think Monique will be in the future if she decides to stay in the relationship?	397	3.41	.88
... how happy do you think Monique will be in the future if she decides to leave the relationship?	399	2.53	1.03

Note 1. All questions began with, "Given the circumstances,"

Note 2. Response scale was 1 to 5, which higher scores indicating greater feelings of risk/regret/happiness.

Table 5.3

Pearson correlation matrix for continuous variables in Study 4 (N = 399)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Destiny Belief	--									
2. Growth Belief	-.39***	--								
3. Negative Expectation of Staying	.22***	-.26***	--							
4. Negative Expectation of Leaving	-.12*	.23***	-.37***	--						
5. Positive Expectation of Staying	-.14**	.34***	-.51***	.47***	--					
6. Positive Expectation of Leaving	.092	-.16**	.60***	-.49***	-.28***	--				
7. Perceived Couple Fit	-.13*	.39***	-.56***	.53***	.65***	-.45***	--			
8. Future Time Investment	-.13**	.25***	-.47***	.38***	.49***	-.39***	.56***	--		
9. Future Money Investment	-.055	.25***	-.31***	.35***	.42***	-.26***	.48***	.69***	--	
10. Future Effort Investment	-.21***	.27***	-.55***	.44***	.52***	-.45***	.59***	.81***	.55***	--

*p < .05. **p < .01. ***p < .001

Table 6.1

Sociodemographic Characteristics of the Participants in Study 5 (N = 393)

Sample Characteristics	<i>n</i>	<i>%</i>
Gender Identity ^a		
Man	173	44.2
Woman	212	54.2
Non-binary	4	1
Ethnicity ^b		
East Asian (e.g., Chinese, Japanese, Korean)	19	4.8
Black (e.g., African, Haitian, Jamaican, Somali, Caribbean)	22	5.6
White (e.g., European, Caucasian)	308	78.4
South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)	3	0.8
Latinx (e.g., Mexican, Puerto Rican, Cuban)	15	3.9
Biracial or Multiracial (please specify):	15	3.9
Other ethnicity or racial identity (e.g., Indigenous, South Asian, West Indian)	11	2.9
Prefer not to disclose	2	0.5
Relationship Status ^c		
Casually dating	18	4.6
Exclusively dating	54	13.7
Engaged	22	5.6
Cohabiting	41	10.4
Married	199	50.6
Single	33	8.4
Divorced or Separated	14	3.6
Widowed	4	1.0
Other relationship status (e.g., common law, domestic partner)	6	1.5
Sexual Orientation ^d		
Heterosexual	346	88.0
Gay	6	1.5
Lesbian	7	1.8
Bisexual	20	5.1
Undecided or Questioning	5	1.3
Other sexual orientation (e.g., asexual, pansexual, queer)	7	1.8

^a Four participants did not report details about their gender identity. ^b One participant did not report details about their ethnicity. ^c Two participants did not report their current relationship status. ^d Two participants did not report their sexual orientation.

Table 6.2

Descriptive statistics of the outcome expectations individual measures

	<i>N</i>	<i>M</i>	<i>SD</i>
... how risky do you think it is for Monique to stay in this relationship?	392	2.33	.95
... how risky do you think it is for Monique to leave this relationship?	393	2.87	1.09
... how likely do you think Monique will regret her decision in the future if she decides to stay in the relationship?	390	2.64	.92
... how likely do you think Monique will regret her decision in the future if she decides to leave the relationship?	393	3.38	.96
... how happy do you think Monique will be in the future if she decides to stay in the relationship?	393	3.32	.91
... how happy do you think Monique will be in the future if she decides to leave the relationship?	393	2.65	.99

Note 1. All questions began with, “Given the circumstances,”

Note 2. Response scale was 1 to 5, which higher scores indicating greater feelings of risk/regret/happiness.

Table 6.3

Pearson correlation matrix for continuous variables in Study 5 (N = 393)

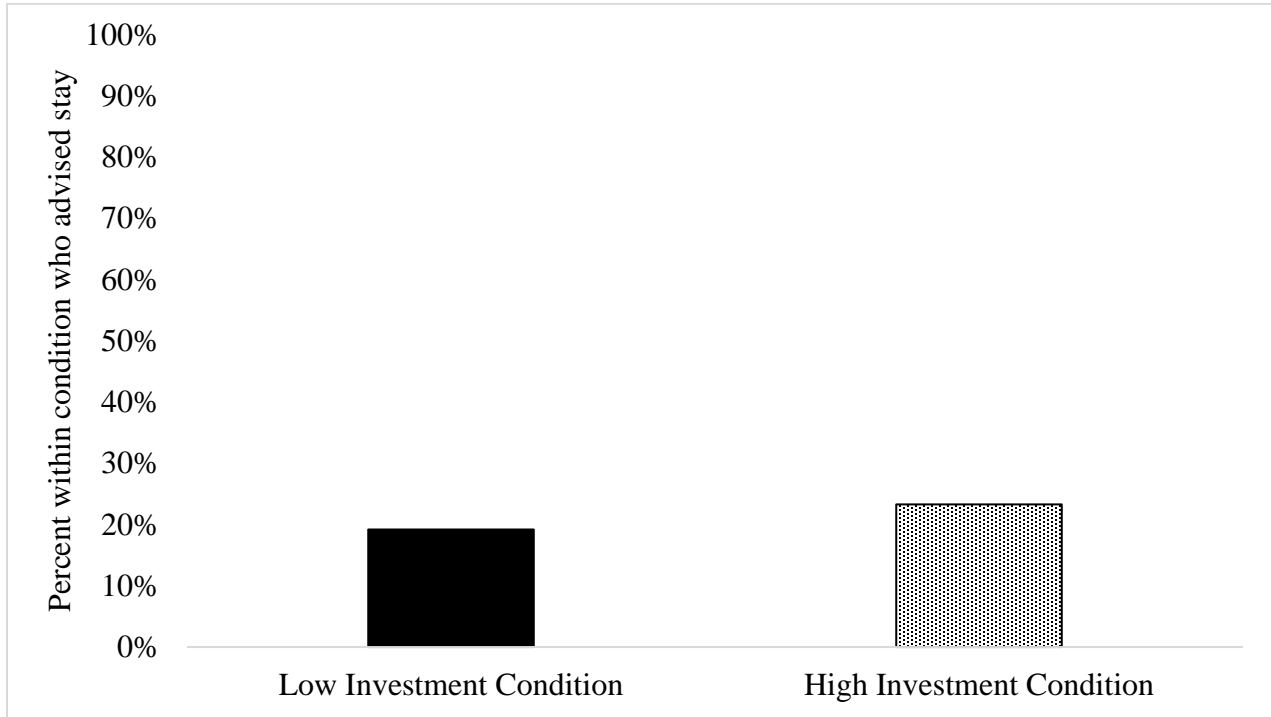
	1.	2.	3.	4.	5.	6.	7.	8.
1. Negative Expectation of Staying	--							
2. Negative Expectation of Leaving	-.44***	--						
3. Positive Expectation of Staying	-.61***	.50***	--					
4. Positive Expectation of Leaving	.52***	-.50***	-.46***	--				
5. Perceived Couple Fit	-.67***	.60***	.73***	-.54***	--			
6. Future Time Investment	-.59***	.45***	.62***	-.50***	.67***	--		
7. Future Money Investment	-.43***	.43***	.53***	-.32***	.53***	.68***	--	
8. Future Effort Investment	-.61***	.50***	.67***	-.50***	.69***	.88***	.62***	--

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

Figures

Figure 1

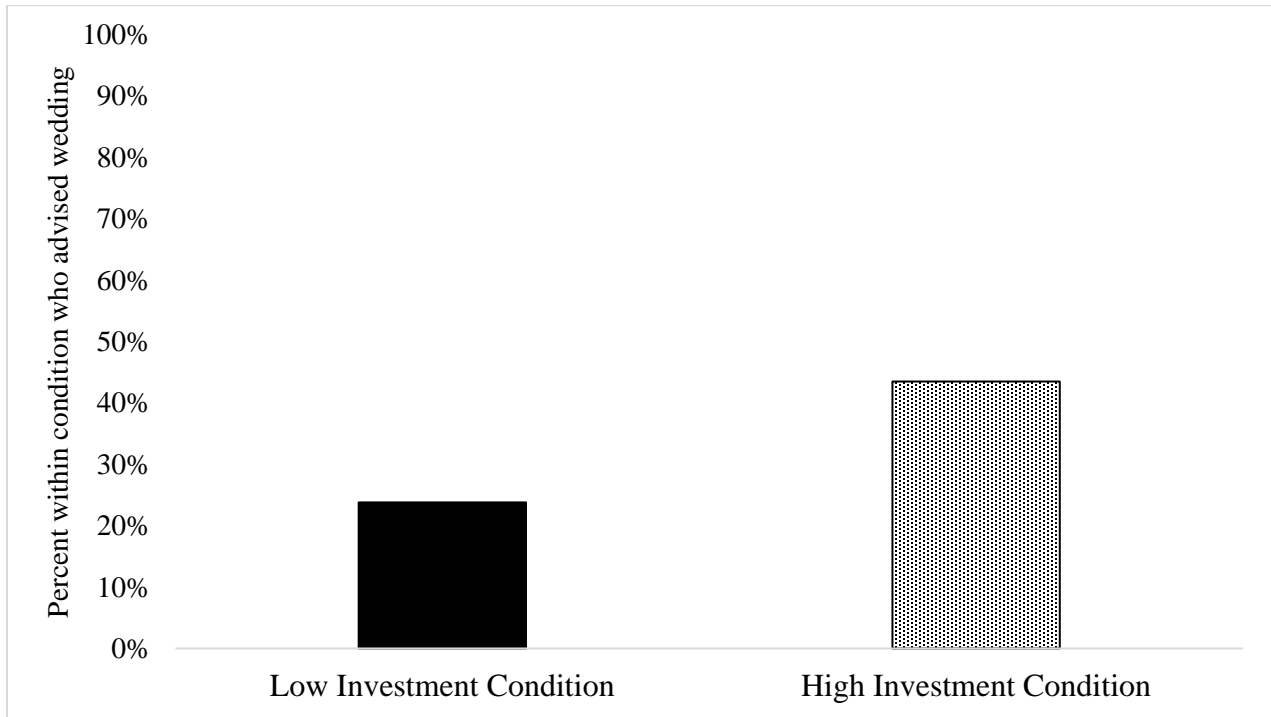
Stay (vs. leave) advice by investment conditions (Study 1)



Note. This figure illustrates the percentage of participants within Study 1 in each investment condition who advised staying in the relationship (i.e., continuing with the current course of action) rather than leaving the relationship (i.e., choosing an alternative course of action).

Figure 2

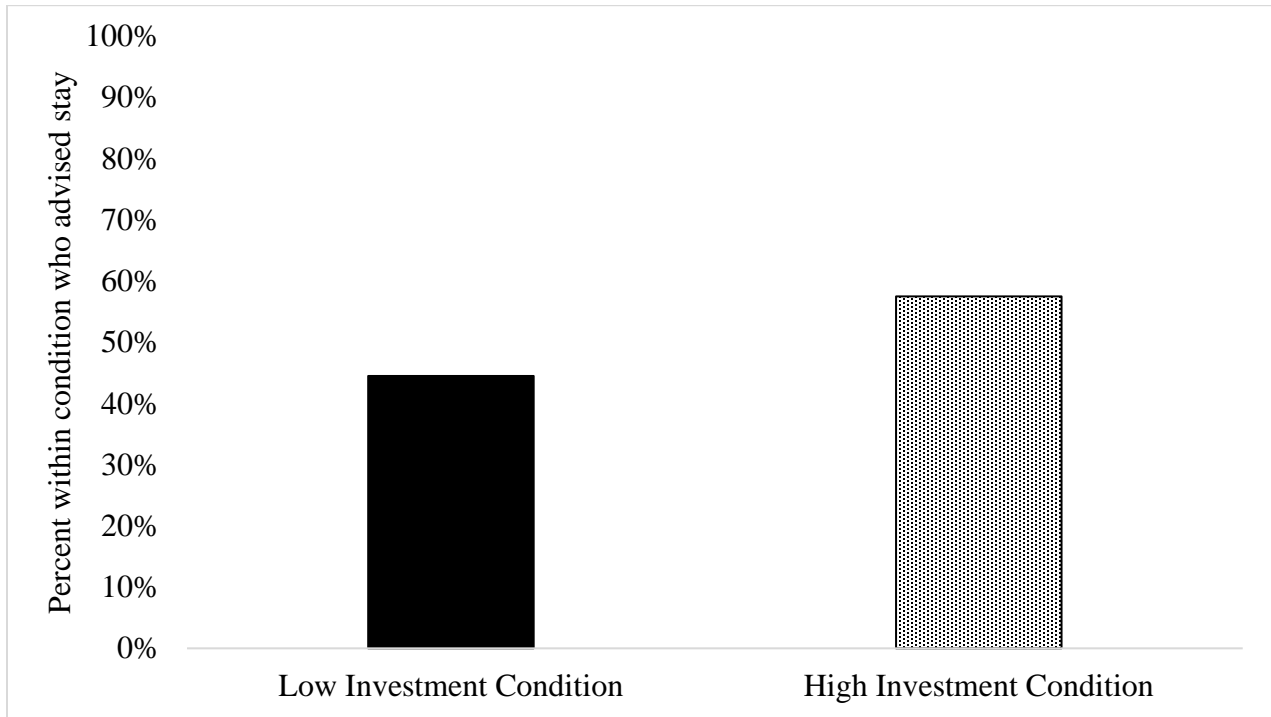
Wedding (vs. elope) advice by investment conditions (Study 2)



Note. This figure illustrates the percentage of participants within Study 2 in each investment condition who advised proceeding with the planned wedding (i.e., continuing with the current course of action) rather than eloping (i.e., choosing an alternative course of action).

Figure 3

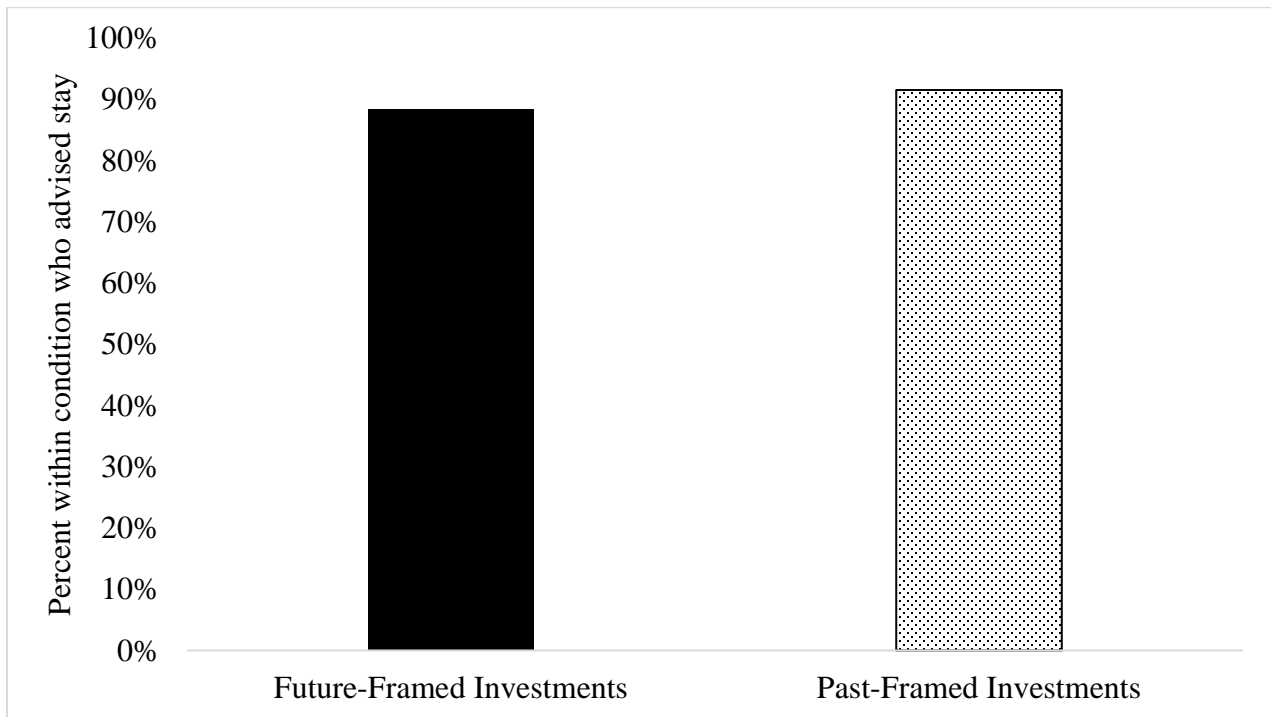
Stay (vs. leave) advice by investment conditions (Study 3)



Note. This figure illustrates the percentage of participants within Study 3 in each investment condition who advised staying in the relationship (i.e., continuing with the current course of action) rather than leaving the relationship (i.e., choosing an alternative course of action).

Figure 4

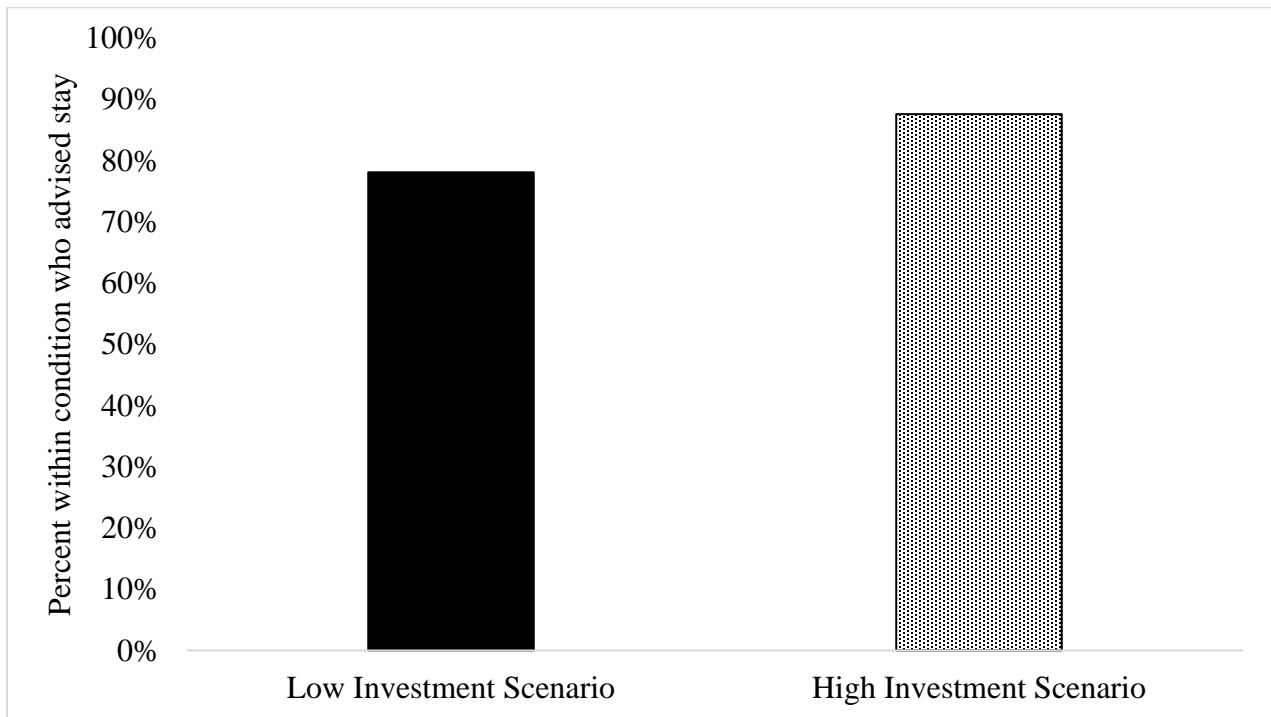
Stay (vs. leave) advice by investment condition (Study 4)



Note. This figure illustrates the percentage of participants within Study 4 in each investment condition who advised staying in the relationship (i.e., continuing with the current course of action) rather than leaving the relationship (i.e., choosing an alternative course of action).

Figure 5

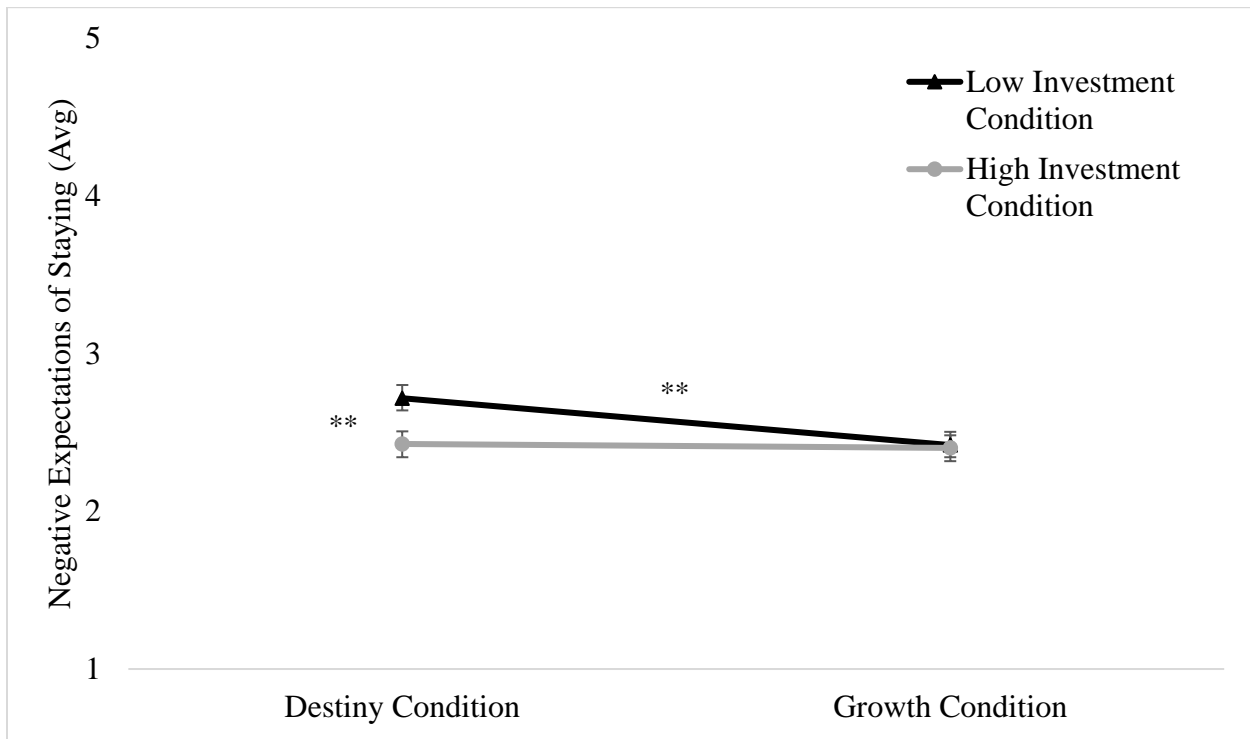
Stay (vs. leave) advice by investment condition (Study 5)



Note. This figure illustrates the percentage of participants within Study 5 in each investment condition who advised staying in the relationship (i.e., continuing with the current course of action) rather than leaving the relationship (i.e., choosing an alternative course of action).

Figure 6

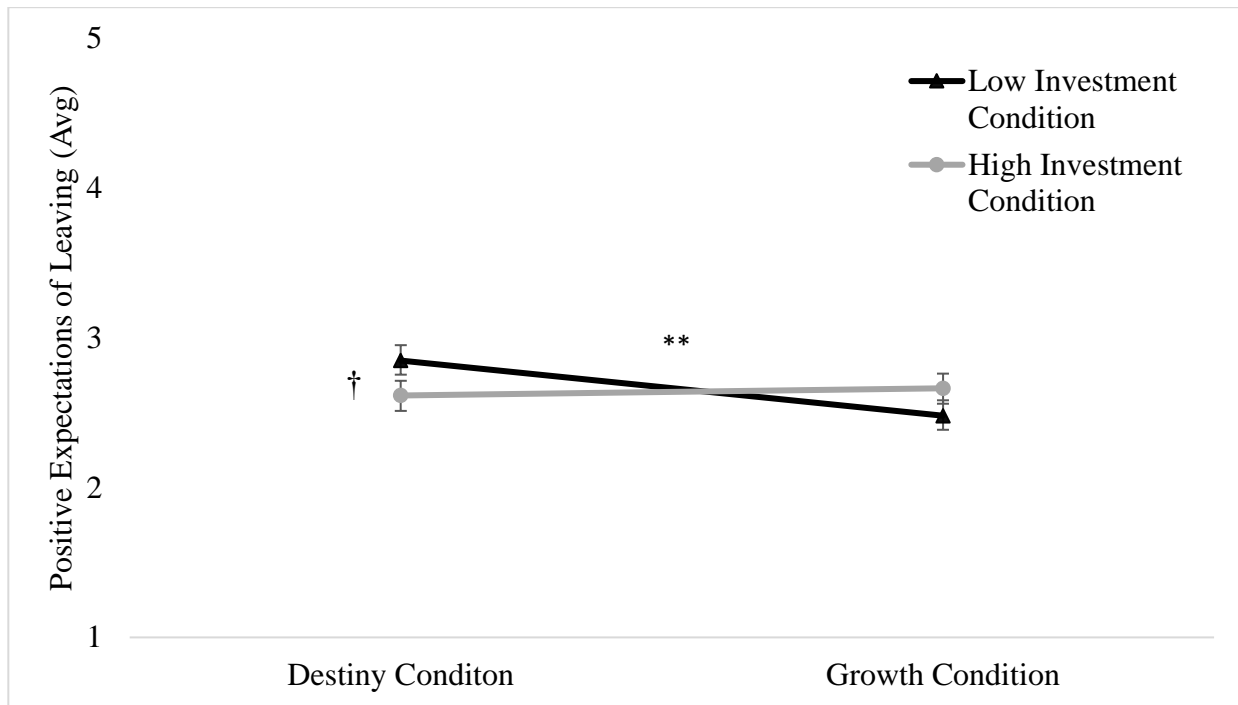
Investment and ITR conditions predicting negative expectations of staying (Study 5)



Note. This figure illustrates the marginally significant two-way interaction between investment condition and implicit theories of relationships condition predicting negative expectations of the target deciding to stay in the relationship. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Figure 7

Investment and ITR conditions predicting positive expectations of leaving (Study 5)



Note. This figure illustrates the significant two-way interaction between investment condition and implicit theories of relationships condition predicting positive expectations of the target deciding to leave the relationship. † $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Appendix A: All Questionnaires

[Study 1, 2, 3, 4] Implicit Theories of Relationships Scale (Knee et al., 2003)

In this next section, we are interested in your feelings about romantic relationships in general. Please read each statement carefully and respond using the provided scale.

- *Response options: Strongly disagree (1), Disagree (2), Somewhat disagree (3), Neither agree nor disagree (4), Somewhat agree (5), Agree (6), Strongly agree (7)*

1. Potential relationship partners are either compatible or they are not.
2. The ideal relationship develops gradually over time.
3. A successful relationship is mostly a matter of finding a compatible partner right from the start.
4. A successful relationship evolves through hard work and resolution of incompatibilities.
5. Potential relationship partners are either destined to get along or they are not.
6. A successful relationship is mostly a matter of learning to resolve conflicts with a partner.
7. Relationships that do not start off well inevitably fail.
8. Challenges and obstacles in a relationship can make love even stronger.
9. If a potential relationship is not meant to be, it will become apparent very soon.
10. Problems in a relationship can bring partners closer together.
11. The success of a potential relationship is destined from the very beginning.
12. Relationships often fail because people do not try hard enough.
13. To last, a relationship must seem right from the start.
14. With enough effort, almost any relationship can work.
15. A relationship that does not get off to a perfect start will never work.
16. It takes a lot of time and effort to cultivate a good relationship.
17. Struggles at the beginning of a relationship are a sure sign that the relationship will fail.
18. Without conflict from time to time, relationships cannot improve.
19. Unsuccessful relationships were never meant to be.
20. Arguments often enable a relationship to improve.
21. Early troubles in a relationship signify a poor match between partners.
22. Successful relationships require regular maintenance.

Outcome Expectations Measures, following scenarios

[Study 1] Given the circumstances, how **risky** is it for Kelsey to decide to get married to Mark and continue their relationship?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 1] Given the circumstances, how **risky** is it for Kelsey to decide to not get married to Mark, thus ending their relationship?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 1] Given the circumstances, how likely do you think Kelsey will **regret** her decision in the future if she decides to get married to Mark and continue their relationship?

- *Response options: Definitely not (1), Probably not (2), Possibly (3), Probably (4), Definitely (5)*

[Study 1] Given the circumstances, how likely do you think Kelsey will **regret** her decision in the future if she decides to not get married to Mark, thus ending their relationship?

- *Response options: Definitely not (1), Probably not (2), Possibly (3), Probably (4), Definitely (5)*

[Study 1] Given the circumstances, how **happy** do you think Kelsey will be in the future if she decides to get married to Mark and continue their relationship?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 1] Given the circumstances, how **happy** do you think Kelsey will be in the future if she decides to not get married to Mark, thus ending their relationship?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 2] Given the circumstances, how **risky** is it for Kelsey and Mark to decide to proceed with having the wedding they've been planning?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 2] Given the circumstances, how **risky** is it for Kelsey and Mark to decide to elope?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 2] Given the circumstances, how likely do you think Kelsey and Mark will **regret** their decision in the future if they decide to proceed with having the wedding they've been planning?

- *Response options: Definitely not (1), Probably not (2), Possibly (3), Probably (4), Definitely (5)*

[Study 2] Given the circumstances, how likely do you think Kelsey and Mark will **regret** their decision in the future if they decide to elope?

- *Response options: Definitely not (1), Probably not (2), Possibly (3), Probably (4), Definitely (5)*

[**Study 2**] Given the circumstances, how **happy** do you think Kelsey and Mark will be if they proceed with having the wedding they've been planning?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[**Study 2**] Given the circumstances, how **happy** do you think Kelsey and Mark will be in the future if they decide to elope?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[**Study 3**] Given the circumstances, how **risky** is it for Emily to continue her relationship with Ben?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[**Study 3**] Given the circumstances, how **risky** is it for Emily to decide to break-up with Ben and pursue a relationship with James?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[**Study 3**] Given the circumstances, how likely do you think Emily will **regret** her decision in the future if she decides to continue her relationship with Ben?

- *Response options: Definitely not (1), Probably not (2), Possibly (3), Probably (4), Definitely (5)*

[**Study 3**] Given the circumstances, how likely do you think Emily will **regret** her decision in the future if she decides to break-up with Ben and pursue a relationship with James?

- *Response options: Definitely not (1), Probably not (2), Possibly (3), Probably (4), Definitely (5)*

[**Study 3**] Given the circumstances, how **happy** do you think Emily will be in the future if she decides to continue her relationship with Ben?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[**Study 3**] Given the circumstances, how **happy** do you think Emily will be in the future if she decides to break-up with Ben and pursue a relationship with James?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[**Study 4, 5**] Given the circumstances, how **risky** do you think it is for Monique to stay in this relationship?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 4, 5] Given the circumstances, how **risky** do you think it is for Monique to leave this relationship?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 4, 5] Given the circumstances, how much do you think Monique will **regret** her decision in the future if she decides to stay in the relationship?

- *Response options: Definitely not (1), Probably not (2), Possibly (3), Probably (4), Definitely (5)*

[Study 4, 5] Given the circumstances, how much do you think Monique will **regret** her decision in the future if she decides to leave the relationship?

- *Response options: Definitely not (1), Probably not (2), Possibly (3), Probably (4), Definitely (5)*

[Study 4, 5] Given the circumstances, how **happy** do you think Monique will be in the future if she decides to stay in the relationship?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

[Study 4, 5] Given the circumstances, how **happy** do you think Monique will be in the future if she decides to leave the relationship?

- *Response options: Not at all (1), Slightly (2), Moderately (3), Very (4), Extremely (5)*

Additional Investment Measures

[Study 1, adapted from Rego et al., 2018] Please continue think about the scenario that you read. Using the slider scale below, please indicate how much time Kelsey should invest in the relationship given the context described in the scenario.

- *Response options: No time (0) to A lot of time (100)*

[Study 3, adapted from Rego et al., 2018] Please continue think about the scenario that you read. Using the slider scale below, please indicate how much time Emily should invest in her current relationship with Ben, given the context described in the scenario.

- *Response options: No time (0) to A lot of time (100)*

[Study 4, 5] Given the circumstances, what percentage of her available **time** do you think Monique should continue to invest in this relationship? Please drag the slider scale to indicate the percentage (0 to 100).

- *Response options: 0 to 100, in increments of ten.*

[Study 4, 5] Given the circumstances, what percentage of her available **money** do you think Monique should continue to invest in this relationship? Please drag the slider scale to indicate the percentage (0 to 100).

- *Response options: 0 to 100, in increments of ten.*

[Study 4, 5] Given the circumstances, what percentage of her available **effort** do you think Monique should continue to invest in this relationship? Please drag the slider scale to indicate the percentage (0 to 100).

- *Response options: 0 to 100, in increments of ten.*

[Study 4, 5] **Conflict Interpretation**

How do you interpret the arguments that this couple has been having?

- A rough patch that they will be able to work through as a couple
- A sign of a more permanent problem with their relationship

[Study 4, 5] **Perceived Couple Fit (adapted from Franiuk et al., 2004)**

- *Response options: Not at all true (1), (2), (3), (4), (5), (6), Completely true (7)*

1. Monique and Sam are a good fit as a couple.
2. Sam is the right person for Monique.
3. There are likely many other people in the world that would be a better match for Monique than Sam.
4. Sam is as close to an ideal partner for Monique that could be expected.

[Study 4, 5] **Own Decision**

Imagine that **you** were in the same situation as Monique that was described in the scenario, what would you decide to do?

- *Response options: Stay in this relationship (1), Leave this relationship (2)*

Manipulation Checks

[Study 1, 2] In the scenario you read earlier, how much money had Mark and Kelsey already invested in their wedding? (Please select one)

- \$2000.00 worth of deposits
- Almost the full cost of their wedding, with just \$2000.00 remaining to pay off

[Study 3] In the scenario that you read in a previous section, which option would you use to best describes Emily and Ben’s feelings about what has made their relationship successful? (Please select one)

- They believe they are each other’s soul mate
- They believe that relationships involve investing effort in each other

[Study 4] What did Monique seem to be thinking about most in the scenario?

- The past and what they had already done in the relationship
- The future and what they will be doing in the relationship

Open-Ended Responses

[Study 4, 5] What details from the scenario made you feel this way about Sam and Monique's relationship? Please describe briefly in the space provided.

[Study 1-5] In the previous section, you were asked about your reactions to the scenario. What details of the scenario were you considering while you were responding? Please identify and describe each factor that influenced what advice you gave.

Demographic Measures

[Study 1-5] Which of the following best describes your current relationship status?

- Casually dating (1)
- Exclusively dating (2)
- Engaged (3)
- Cohabiting (4)
- Married (5)
- Single (6)
- Divorced or Separated (7)
- Widowed (8)
- Other (please specify): (9) _____

[Study 4, 5] Which gender do you most strongly identify with?

- Man (1)
- Woman (2)
- Non-binary (3)
- Prefer to self-identify, below: (4) _____

[Study 1, 2, 3] Gender

- Male
- Female
- Transgender Female
- Transgender Male
- Gender Non-Binary or Gender Non-Conforming
- Other _____

[Study 1-5] Please indicate your sexual orientation by selecting one or more of the six categories listed below.

- Heterosexual (1)
- Gay (2)
- Lesbian (3)
- Bisexual (4)
- Undecided or Questioning (5)
- Other, please specify: (6) _____

[Study 1-5] What is your age? _____

[Study 4, 5] What is your ethnic identity? If more than one category applies, please select the one with which you most strongly identify. (Please check one)

- Indigenous (e.g., First Nations, Inuit and Métis) (1)
- East Asian (e.g., Chinese, Japanese, Korean) (2)
- Black (e.g., African, Haitian, Jamaican, Somali, Caribbean) (3)
- Latinx (e.g., Mexican, Puerto Rican, Cuban) (12)
- White (e.g., European, Caucasian) (7)
- South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan) (8)
- West Indian (e.g., Arabic, Armenian, Egyptian, Iranian, Lebanese, Moroccan) (9)
- South East Asian (e.g., Cambodian, Indonesian, Laotian, Filipino) (11)
- Pacific Islander (e.g., Samoan, Micronesian, Tahitian) (15)
- Biracial or Multiracial (please specify): (13) _____
- Other (please specify): (14) _____
- Prefer not to disclose (16)

[Study 1, 2, 3] What is your ethnic identity? If more than one category applies, please select the one with which you most strongly identify. (Please check one)

- Aboriginal/Native
- Asian
- Black
- East Indian
- Hispanic
- Middle Eastern
- White
- Other (please specify): _____

Appendix B: Study 1 Manipulations

Low Investment Scenario

Mark and Kelsey are engaged and have been busy planning their wedding. Throughout the planning process, they became friends with a married couple, Josh and Megan, and have been really enjoying spending time with them. Whenever they are with them, Kelsey can't help but notice how happy Josh and Megan seem, and she finds the way in which Josh surprises Megan with gestures and romance very attractive. She wishes Mark would treat her like that. Her and Mark have talked about this from time to time but, despite Mark trying to do more of those things, it just isn't who he is.

Over time, Kelsey has realized that her relationship with Mark will never fully be what she wants it to be. Although she knows that she won't be with Josh if she were to not be with Mark, she wants someone like Josh. While she can see herself being happy spending her life with Mark, she has a strong feeling that she will not be as happy as she could be in that marriage. Mark and Kelsey have already paid \$2000 in deposits, and there is no way to be refunded the money. This means that they would have wasted all of that money if she chose to not marry Mark.

She is not sure what to do: should they go forward with the wedding and continue to pay for it even though she will be less happy with her marriage, or should they not get married so she can find someone with whom she will be completely happy?

What advice would you give her?

- Do not get married (i.e., end the relationship)
- Get married (i.e., continue the relationship)

High Investment Scenario

Mark and Kelsey are engaged and have been busy planning their wedding. Throughout the planning process, they became friends with a married couple, Josh and Megan, and have been really enjoying spending time with them. Whenever they are with them, Kelsey can't help but notice how happy Josh and Megan seem, and she finds the way in which Josh surprises Megan with gestures and romance very attractive. She wishes Mark would treat her like that. Her and Mark have talked about this from time to time but, despite Mark trying to do more of those things, it just isn't who he is.

Over time, Kelsey has realized that her relationship with Mark will never fully be what she wants it to be. Although she knows that she won't be with Josh if she were to not be with Mark, she wants someone like Josh. While she can see herself being happy spending her life with Mark, she has a strong feeling that she will not be as happy as she could be in that marriage. Mark and Kelsey have almost paid for their entire wedding in full, with just \$2000 remaining to pay off, and there is no way to be refunded the money. This means that they would have wasted all of that money if she chose to not marry Mark.

She is not sure what to do: should they go forward with the wedding and pay the remaining \$2000 even though she will be less happy with her marriage, or should they not get married so she can find someone with whom she will be completely happy?

What advice would you give her?

- Do not get married (i.e., end the relationship)
- Get married (i.e., continue the relationship)

Appendix C: Study 2 Manipulations

Low Investment Scenario

Mark and Kelsey are engaged and have been busy planning their wedding. Throughout the planning process, they haven't been able to see eye-to-eye on many aspects of the wedding and it is creating a lot of pressure on their relationship. For instance, every time they try to discuss even a small detail of the wedding, or make a decision about something wedding-related, they become extremely frustrated and cannot meaningfully work together.

Recently, some members of their wedding party suggested that they elope; it would make the planning significantly easier and reduce the tension that planning is creating in their relationship. After consideration, Mark and Kelsey believe that eloping could be a better fit for them; it would allow them to fully enjoy the wedding and be much happier with each other overall. However, they have already paid \$2000 in deposits and there is no way to be refunded the money. This means that they will waste all of that money if they choose to elope instead of having the wedding they have already been planning.

They are not sure what they should do: should they go forward and continue to pay for the wedding they have put money towards but will enjoy less, or should they opt for elopement to reduce the pressure on their relationship and help them enjoy their wedding more?

What advice would you give them?

- Have the wedding they have been planning
- Elope

High Investment Scenario

Mark and Kelsey are engaged and have been busy planning their wedding. Throughout the planning process, they haven't been able to see eye-to-eye on many aspects of the wedding and it is creating a lot of pressure on their relationship. For instance, every time they try to discuss even a small detail of the wedding, or make a decision about something wedding-related, they become extremely frustrated and cannot meaningfully work together.

Recently, some members of their wedding party suggested that they elope; it would make the planning significantly easier and reduce the tension that planning is creating in their relationship. After consideration, Mark and Kelsey believe that eloping could be a better fit for them; it would allow them to fully enjoy the wedding and be much happier with each other overall. However, they have already almost paid for their entire wedding in full, with just \$2000 remaining to pay off and there is no way to be refunded the money. This means that they will waste all of that money if they choose to elope instead of having the wedding they have already been planning.

They are not sure what they should do: should they go forward and continue to pay for the wedding they have put money towards but will enjoy less, or should they opt for elopement to reduce the pressure on their relationship and help them enjoy their wedding more?

What advice would you give them?

- Have the wedding they have been planning
- Elope

Appendix D: Study 3 Manipulations

Destiny Belief & Low Investment Scenario

Emily has been in a relationship with Ben for several years. They get along really well with each other's family and friends and have built new friendships together they generally go with the flow and take each day as it comes. Their other friends in long-term relationships have been buying houses, going on trips, and planning for their future, and sometimes poke fun at Emily and Ben for not doing these things too. But they just don't feel the need to rush into things. They are really happy where they are. The relationship that they have built and the love that they share has been a result of believing they are each other's soul mate since the beginning. They have always been good at communicating with one another and whenever they have been faced with a problem, they resolve it because they are meant to be together.

Through her pick-up softball team, Emily recently made a friend, James, who had recently moved to the area. When she first met him, she noticed that he was really attractive, but this observation didn't linger in her mind more than if she had seen an attractive stranger walking past her on the street. Within a few months of meeting him, Emily had gotten to know James more on a personal level at their practices. She even invited him to gatherings with Ben and their friends so he could meet more people in the area. He hit it off with everyone immediately. Emily grew to like a lot of aspects of James's personality and values and really enjoys having him in her life.

One evening after a softball game, the team went out to celebrate. When they were paying for their bills, their waitress commented on how nice of a couple Emily and James were, and asked how long they have been together. Emily quickly dismissed the observation by replying that they were just friends and that she's in a happy relationship with someone else. But

internally, Emily had been noticing that she'd been thinking about James more and more; but it wasn't until this moment that she was actually confronted with the possibility that she might not just have feelings for James, but that he also might be a really good partner for her to be with.

For several weeks, she thought about what she wanted in a partner. She is really happy with Ben and loves him a lot, and she has always felt that they were meant to be together and hadn't ever considered herself with someone else. But she can't help but feel that James could be a more rewarding partner for her, and he aligns really well with her interests, humour, and plans for the future. One night when they were walking to their cars after a softball practice, James was acting strange. He finally tells Emily he has really strong feelings for her and while he had been trying to stop these feelings because he knows she's happy with Ben, he just needed her to know the truth. Emily tells James that this is a lot for her to process and that she needs to think things through before she can say anything.

She is not sure what to do: should she continue her relationship with Ben, or should she break-up with Ben and pursue a relationship with James?

What advice would you give her? (Please select one)

- Break-up with Ben and pursue a relationship with James
- Continue her relationship with Ben

Growth Belief & Low Investment Scenario

Emily has been in a relationship with Ben for several years. They get along really well with each other's family and friends and have built new friendships together they generally go with the flow and take each day as it comes. Their other friends in long-term relationships have been buying houses, going on trips, and planning for their future, and sometimes poke fun at

Emily and Ben for not doing these things too. But they just don't feel the need to rush into things. They are really happy where they are. The relationship that they have built and the love that they share has been a result of believing that relationships involve investing in each other since the beginning. They have developed really strong communication over the years and whenever they have been faced with a problem, they resolve it because they put in the effort to make things work.

Through her pick-up softball team, Emily recently made a friend, James, who had recently moved to the area. When she first met him, she noticed that he was really attractive, but this observation didn't linger in her mind more than if she had seen an attractive stranger walking past her on the street. Within a few months of meeting him, Emily had gotten to know James more on a personal level at their practices. She even invited him to gatherings with Ben and their friends so he could meet more people in the area. He hit it off with everyone immediately. Emily grew to like a lot of aspects of James's personality and values and really enjoys having him in her life.

One evening after a softball game, the team went out to celebrate. When they were paying for their bills, their waitress commented on how nice of a couple Emily and James were, and asked how long they have been together. Emily quickly dismissed the observation by replying that they were just friends and that she's in a happy relationship with someone else. But internally, Emily had been noticing that she'd been thinking about James more and more; but it wasn't until this moment that she was actually confronted with the possibility that she might not just have feelings for James, but that he also might be a really good partner for her to be with.

For several weeks, she thought about what she wanted in a partner. She is really happy with Ben and loves him a lot, and she has worked to grow this relationship over the years and

hadn't ever considered herself with someone else. But she can't help but feel that James could be a more rewarding partner for her, and he aligns really well with her interests, humour, and plans for the future. One night when they were walking to their cars after a softball practice, James was acting strange. He finally tells Emily he has really strong feelings for her and while he had been trying to stop these feelings because he knows she's happy with Ben, he just needed her to know the truth. Emily tells James that this is a lot for her to process and that she needs to think things through before she can say anything.

She is not sure what to do: should she continue her relationship with Ben, or should she break-up with Ben and pursue a relationship with James?

What advice would you give her? (Please select one)

- Break-up with Ben and pursue a relationship with James
- Continue her relationship with Ben

Destiny Belief & High Investment Scenario

Emily has been in a relationship with Ben for several years, and in that time, they have invested in their relationship and have experienced a lot together. For example, they get along really well with each other's family and friends and have built new friendships together, have went on trips to places in Europe, the Caribbean, and Southeast Asia, last year they purchased their first home, and they openly talk about their future together. The relationship that they have built and the love that they share has been a result of being each other's soul mate since the

beginning. They have always been good at communicating with one another and whenever they have been faced with a problem, they resolve it because they are meant to be together.

Through her pick-up softball team, Emily recently made a friend, James, who had recently moved to the area. When she first met him, she noticed that he was really attractive, but this observation didn't linger in her mind more than if she had seen an attractive stranger walking past her on the street. Within a few months of meeting him, Emily had gotten to know James more on a personal level at their practices. She even invited him to gatherings with Ben and their friends so he could meet more people in the area. He hit it off with everyone immediately. Emily grew to like a lot of aspects of James's personality and values and really enjoys having him in her life.

One evening after a softball game, the team went out to celebrate. When they were paying for their bills, their waitress commented on how nice of a couple Emily and James were, and asked how long they have been together. Emily quickly dismissed the observation by replying that they were just friends and that she's in a happy relationship with someone else. But internally, Emily had been noticing that she'd been thinking about James more and more; but it wasn't until this moment that she was actually confronted with the possibility that she might not just have feelings for James, but that he also might be a really good partner for her to be with.

For several weeks, she thought about what she wanted in a partner. She is really happy with Ben and loves him a lot, and she has always felt that they were meant to be together and hadn't ever considered herself with someone else. But she can't help but feel that James could be a more rewarding partner for her, and he aligns really well with her interests, humour, and plans for the future. One night when they were walking to their cars after a softball practice, James was acting strange. He finally tells Emily he has really strong feelings for her and while

he had been trying to stop these feelings because he knows she's happy with Ben, he just needed her to know the truth. Emily tells James that this is a lot for her to process and that she needs to think things through before she can say anything.

She is not sure what to do: should she continue her relationship with Ben, or should she break-up with Ben and pursue a relationship with James?

What advice would you give her? (Please select one)

- Break-up with Ben and pursue a relationship with James
- Continue her relationship with Ben

Growth Belief & High Investment Scenario

Emily has been in a relationship with Ben for several years, and in that time, they have invested in their relationship and have experienced a lot together. For example, they get along really well with each other's family and friends and have built new friendships together, have went on trips to places in Europe, the Caribbean, and Southeast Asia, last year they purchased their first home, and they openly talk about their future together. The relationship that they have built and the love that they share has been a result of lots of work and investment in each other since the beginning. They have developed really strong communication over the years and whenever they have been faced with a problem, they resolve it because they put in the effort to make things work.

Through her pick-up softball team, Emily recently made a friend, James, who had recently moved to the area. When she first met him, she noticed that he was really attractive, but this observation didn't linger in her mind more than if she had seen an attractive stranger walking past her on the street. Within a few months of meeting him, Emily had gotten to know James

more on a personal level at their practices. She even invited him to gatherings with Ben and their friends so he could meet more people in the area. He hit it off with everyone immediately. Emily grew to like a lot of aspects of James's personality and values and really enjoys having him in her life.

One evening after a softball game, the team went out to celebrate. When they were paying for their bills, their waitress commented on how nice of a couple Emily and James were, and asked how long they have been together. Emily quickly dismissed the observation by replying that they were just friends and that she's in a happy relationship with someone else. But internally, Emily had been noticing that she'd been thinking about James more and more; but it wasn't until this moment that she was actually confronted with the possibility that she might not just have feelings for James, but that he also might be a really good partner for her to be with.

For several weeks, she thought about what she wanted in a partner. She is really happy with Ben and loves him a lot, and she has worked to grow this relationship over the years and hadn't ever considered herself with someone else. But she can't help but feel that James could be a more rewarding partner for her, and he aligns really well with her interests, humour, and plans for the future. One night when they were walking to their cars after a softball practice, James was acting strange. He finally tells Emily he has really strong feelings for her and while he had been trying to stop these feelings because he knows she's happy with Ben, he just needed

her to know the truth. Emily tells James that this is a lot for her to process and that she needs to think things through before she can say anything.

She is not sure what to do: should she continue her relationship with Ben, or should she break-up with Ben and pursue a relationship with James?

What advice would you give her? (Please select one)

- Break-up with Ben and pursue a relationship with James
- Continue her relationship with Ben

Appendix E: Study 4 Manipulations

[Introduction that was presented to all participants before they were show the scenario they were randomly assigned to]

Providing Relationship Advice

In this next section, you will be reading responses provided by Monique, who is talking about her current relationship with her partner, Sam. Please read through her responses carefully. After you are finished, you will be asked to provide some advice on what she should do, as well as some additional questions about what she's said. There are no right or wrong answers, so please choose what advice you think is best given the details she provides.

Past Investment Scenario

Sam and I have been together for five years now. For the most part, it's been wonderful. But in recent months we've been arguing more and more! Most times we're able to work it out, but other times a solution just seems hopeless. A part of me thinks this is just a rough patch and we can work through it. But the other part of me worries that this could be a sign of a more permanent problem with our relationship.

Whenever I think about this relationship potentially ending, so many things come to mind. If we were to break-up, not only would I lose my partner but I would also lose everything we've invested into our relationship to get where we are now. Although it meant some sacrifices, last year I moved to a new city with Sam so they could pursue their dream job. That was a big deal at the time, but we now have a joint lease on an apartment in a great part of the city that we fully-furnished together to make it our own. We also bought a dog together, Pepper, who we love dearly. Not only do I have a deep relationship with Sam, but I've also become really close with their family and friends. Their sibling Jordan got married last year and I was in the wedding

party. My relationship with Sam is already a big part of who I am as a person. All of this would be lost if our relationship were to end.

What advice would you give to Monique?

- Stay in this relationship
- Leave this relationship

Future Investment Scenario

Sam and I have been together for five years now. For the most part, it's been wonderful. But in recent months we've been arguing more and more! Most times we're able to work it out, but other times a solution just seems hopeless. A part of me thinks this is just a rough patch and we can work through it. But the other part of me worries that this could be a sign of a more permanent problem with our relationship.

Whenever I think about this relationship potentially ending, so many things come to mind. If we were to break-up, not only would I lose my partner but I would also lose everything we've been working towards and planning for our future together. Although it will mean some sacrifices, this year I will be moving to a new city with Sam so they can pursue their dream job. It's a big deal but we will have a joint lease on an apartment in a great part of the city that we will be fully-furnishing together to make it our own. We also plan to get a dog together and have already agreed on the name, Pepper. Not only do I have a deep relationship with Sam, but I've also become really close with their family and friends. Their sibling Jordan is getting married next year and I'm in the wedding party. My relationship with Sam is becoming a big part of who I am as a person. All of this would be lost if our relationship were to end.

What advice would you give to Monique?

- Stay in this relationship
- Leave this relationship

Appendix F: Study 5 Manipulations

Destiny Belief Article

Love for the Long Haul: How to get romantic relationships to last

By Chris Berglund

For many people, nothing occupies more of their time than their romantic relationships. Our culture is inundated with images of whirlwind love—at-first-sight romances and suggestions of finding that one “right” person with whom to spend the rest of our lives. Are these messages about romantic love right—is it that relationships should reflect such fantastic qualities? And, if so, what effects do they have on an individual’s relationship?

It was June of 2010, Alex Sanders and Maggie Latham ate separately at a café in Phoenix. Maggie had seen Alex eating lunch here before. Although they had never spoken, Maggie thought, “I would marry this guy tomorrow if he asked me.” After making eye contact for a while, Alex joined Maggie at her table. They left the café about two hours later with plans to be married later that year. Later Alex said, “We did all of the talking with our eyes.” They have been happily married since. That’s 12 years!

“Love at first sight seems to be the rule—not the exception.”

Many people may believe that true happiness in a relationship requires an almost “storybook romance.” However, it is no secret that divorce rates in this country are high and that unrealistic expectations about relationships may be a prime cause of relationship termination. What, then, does research have to say on this subject?

Dr. Patricia Hobson, a well-known relationship researcher from the University of Michigan’s Center for Couples Research, has spent the last decade studying couples involved in romantic relationships. She followed 1,482 couples over a period of 10 years and studied various

aspects of their relationships. According to Hobson's research, there is a significant association between the beliefs that a person has about relationships in general and relationship outcomes.

Hobson found that people knew very early in their relationship whether or not their relationship was going to be successful for the long-term. "Some people seem to have an interesting insight into the status of their relationship," said Hobson. Couples who reported high levels of passion and romance in the first year of their relationship were more likely to remain together after ten years than couples who said that these aspects were growing slowly over the first year. It seems that a large percentage of a person's satisfaction in his or her relationship is based on whether or not one gets signals early on in the relationship.

She also found that people who believed that their partner was the perfect match early in the relationship were more likely to remain together than those who did not believe this until later in the relationship. Although a small percentage of satisfaction in a relationship was found to come from effort and building a relationship over time, it seems that these factors only play a small role in a satisfying, long-term relationship. Feelings of passion and love at first sight seem to be the keys to a satisfying and long-lasting relationship.

Why would those who expect to find the "right" person and have great romance and passion be so happy in their relationships? First, Hobson says that people who expect relationships to be very romantic probably put those beliefs into practice. "These people are more likely to have candlelight dinners and walks in the park or by the beach," says Hobson. Second, she reasoned that these beliefs about one's relationship, although possibly unrealistic, may act as a guide in the relationship. Believing that one's relationship is destined for success may lead people to act in ways that serve to maintain their relationship. Hobson does not deny that work is important in a relationship between two people, but sustaining a romantic

relationship over time clearly is influenced strongly by how much and how quickly people idealize their relationship and their partner.

When asked if the story of Alex and Maggie was something that people should be expecting in their relationships, she responded, “Well, I’m not saying that everyone should know within hours of meeting someone that he or she is the person they want to marry,” and then she added with a smile, “but they should have a pretty good idea. Some version of ‘love at first sight’ seems to be the rule—not the exception. Indeed, finding the right person is the key to good relationships.” □

Chris Berglund is a free-lance writer from Ann Arbor, Michigan. Chris is a frequent contributor to Modern Psychology.

Growth Belief Article

Love for the Long Haul: How to get romantic relationships to last

By Chris Berglund

For many people, nothing occupies more of their time than their romantic relationships. Our culture is inundated with images of whirlwind love-at-first-sight romances and suggestions of finding that one “right” person with whom to spend the rest of our lives. Do people internalize these messages about romantic love and believe that their relationships should reflect the same fantastic quality? And, if so, what effects do these beliefs have on an individual’s relationship?

It was June of 2010, Alex Sanders and Maggie Latham ate separately at a café in Phoenix. Maggie had seen Alex eating lunch here before. Although they had never spoken, Maggie thought, “I would marry this guy tomorrow if he asked me.” After making eye contact

for a while, Alex joined Maggie at her table. They left the café about two hours later with plans to be married later that year. Later Alex said, “We did all of the talking with our eyes.”

Just months after getting married, though, their relationship no longer reflected this idealistic quality. “We started having all of the problems that a typical relationship has,” says Maggie, “no couple is immune.” Although their relationship has taken a lot of work since (including a four-month legal separation in 2013), they are happy that they stuck with it as they celebrate 12 years of marriage together.

“...relationships will naturally encounter problems.”

Many people may believe that true happiness in a relationship requires an almost “storybook romance.” However, it is no secret that divorce rates in this country are high and that unrealistic expectations about relationships may be a prime cause of relationship termination. What, then, does research have to say on this subject?

Dr. Patricia Hobson, a well-known relationship researcher from the University of Michigan’s Center for Couples Research, has spent the last decade studying couples involved in romantic relationships. She followed 1,482 couples over a period of 10 years and studied various aspects of their relationships. According to Hobson’s research, there is a significant association between the beliefs that a person has about relationships in general and relationship outcomes.

People who believed that effort and work were key in sustaining a romantic relationship were much more likely to be satisfied in their relationships and much more likely to remain in their relationships than those who endorsed more idealistic beliefs about their relationships. She found that couples that believed their relationship was “destined” for success were less likely to be together after 10 years than those who emphasized that effort is important. Indeed, she found

that a large percentage of a person's satisfaction in his or her relationship is based on whether or not partners were committed to putting sincere effort into building an intimate relationship.

Similarly, she found that people who expected intimacy to exist between partners from the beginning without having to do much work were much more likely to end their relationships. Although a small percentage of satisfaction in a relationship was found to come from passion and romance, it seems that these factors play a very small role in a satisfying, long-term relationship.

Why would those who focus on work and effort be so much happier in their relationships? Hobson reasoned that these beliefs about one's relationship reflect the reality that partners are naturally different and relationships will naturally encounter problems. Work and effort are naturally adaptive responses that serve to maintain a relationship. However, believing that one's relationship is destined for success at the onset may be an unrealistic belief that leads people to act in ways that are detrimental for a relationship. Hobson does not deny that romance is important in forming a relationship between two people, but sustaining it for a long time clearly is influenced strongly by how much effort individuals put into the relationship.

When asked as to why the notion of love at first sight is so popular in our culture, Hobson responded, "The media is obsessed with portraying passionate, quick, and perfect relationships. Notice that they never show the movie couple ten years down the road? The couple is probably no longer together. 'Love at first sight' is the exception—not the rule. And if a couple that believes they fell into 'love at first sight' is still together twenty years later, I'd say that a lot of

work went into keeping that relationship together.” □

Chris Berglund is a free-lance writer from Ann Arbor, Michigan. Chris is a frequent contributor to Modern Psychology.

[Introduction that was presented to all participants before they were show the scenario they were randomly assigned to]

Providing Relationship Advice

In this next section, you will be reading responses provided by Monique, who is talking about her current relationship with her partner, Sam. Please read through her responses carefully. After you are finished, you will be asked to provide some advice on what she should do, as well as some additional questions about what she’s said. There are no right or wrong answers, so please choose what advice you think is best given the details she provides.

Low Investment Scenario

Sam and I have been together for five years now. For the most part, it’s been wonderful. We dated for a few months before committing to each other, and this relationship is the most serious one I’ve ever had.

A couple years after we started dating, Sam got a dream job offer. He was able to get a lease on an apartment in the same neighborhood as me. About a year later, I bought a dog and Sam has come to love Pepper as much as I do! We have talked about taking some trips together.

Over the years, I've also become closer with Sam's family and friends. His sister Jordan and I have a lot in common. I was happy for her when she got married last year.

My relationship with Sam is a big part of who I am. Although I am happy, in recent months we have been arguing more and more frequently! Most times we're able to work out whatever we're fighting about, but other times a solution just seems hopeless. Part of me thinks this is just a rough patch and we can work through it. But the other part of me worries that this could be a sign of a more permanent problem with our relationship. If we were to eventually break up, what I have invested in this relationship so far would be gone.

What advice would you give to Monique?

- Stay in this relationship
- Leave this relationship

High Investment Scenario

Sam and I have been together for five years now. For the most part, it's been wonderful. We dated for a few months before committing to each other, and this relationship is the most serious one I've ever had.

A couple years after we started dating, Sam got a dream job offer in a new city. I sacrificed a lot to move with him, but we were able to get a joint lease on an apartment in a great neighborhood. About a year later, we bought a dog together and we both love Pepper so much! We have taken some trips together too. Over the years, I've also become really integrated with Sam's family and friends. His sister Jordan and I have become really close. I was in the wedding party when she got married last year.

My relationship with Sam is a big part of who I am. Although I am happy, in recent months we have been arguing more and more frequently! Most times we're able to work out

whatever we're fighting about, but other times a solution just seems hopeless. Part of me thinks this is just a rough patch and we can work through it. But the other part of me worries that this could be a sign of a more permanent problem with our relationship. If we were to eventually break up, everything I have invested in this relationship so far would be gone.

What advice would you give to Monique?

- Stay in this relationship
- Leave this relationship