

# Through thick and thin?: Young adults' implicit beliefs about friendship and their reported use of dissolution and maintenance strategies with same-gender friends

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## Abstract

Despite the documented importance of friendship for the well-being of young adults, there is a paucity of work mapping factors associated with friendship dissolution and maintenance during this developmental period. We examined whether implicit theories of friendships – specifically, growth beliefs (i.e., the belief that friendships can be developed) and destiny beliefs (i.e., the belief that friendships are either meant to work or not) – were associated with endorsement of dissolution and maintenance responses in two types of challenging situations occurring with same-gender friends. One hundred forty-five undergraduate students (80 females,  $M_{age} = 20.71$ ,  $SD = 1.46$ ) completed an online questionnaire. Participants read twelve hypothetical situations depicting transgressions by a friend (i.e., violations of friendship expectancies) or conflicts of interest (i.e., differences of needs, desires, or opinions) and reported how likely they would be to engage in strategies reflecting maintaining the friendship or dissolving it, either by ending it completely or diminishing its quality. They also completed a scale assessing implicit theories of friendships. Participants endorsed dissolving the friendship more strongly when the friend had transgressed than in conflicts of interest, whereas maintenance strategies were endorsed more strongly in conflicts than in transgressions. Moreover, higher destiny beliefs

were associated with greater endorsement of ending the friendship and weaker endorsement of maintaining it; in contrast, higher growth beliefs were associated with greater endorsement of maintenance. Findings provide new insight into when and why young adults may dissolve or maintain a friendship.

**KEYWORDS**

friendships, implicit theories of friendships, young adulthood

## 1 | INTRODUCTION

Having high-quality friendships positively impacts the well-being of young adults (ages 18–25 years; Buote et al., 2007; Friedlander et al., 2007), yet friendship maintenance and dissolution during this developmental period remains poorly understood. In the current study, we examined whether young adults' reported use of friendship dissolution and maintenance strategies varied across two critical situations – transgressions by the friend and conflicts of interest – and whether endorsement of these responses was associated with implicit beliefs about friendship. Individuals holding stronger destiny beliefs think that relationships are either destined to work out or not; in contrast, those endorsing stronger growth beliefs think that successful relationships evolve with effort. Research has shown that these implicit theories shape responses to challenges occurring in romantic relationships (e.g., Knee, 1998). Here, we extend this work to friendship, another critical relationship context for young adults.

### 1.1 | Friendship in young adulthood

From childhood through adolescence, the provisions of friendship change profoundly, as a focus on shared activities deepens into a more intimate connection characterized by self-disclosure (see Bagwell & Schmidt, 2011). By young adulthood, friends are a key source of social support, helping to smooth the transition to new roles and contexts (Carbery & Buhrmester, 1998). During this developmental period, having good friends is associated with greater well-being, higher satisfaction, and better academic adjustment (e.g., Bagwell et al., 2005; Buote et al., 2007; Friedlander et al., 2007). In this study, we focus on same-gender friendships, an important interpersonal relationship for young adults (Carbery & Burhmaster, 1998; Weisz & Wood, 2005), that contributes uniquely to their happiness (Demir et al., 2018).

For many young adults, high-quality friendships may facilitate their transition to higher education. In the United States, 69.1% of recent high school graduates are enrolled in college or university (National Center of Education Statistics, 2019), and friends may play a vital role in helping young adults successfully navigate new educational contexts. For example, Buote et al. (2007) found that among first-year university students, friends were a crucial source of support who helped to reduce stress. Conversely, a lack of perceived support from friends has been associated with compromised mental health during the transition to university (Taylor et al., 2014). Given how many young adults attend university, as well as the contribution of friendship to success in this context, it is important to elucidate processes of friendship maintenance and dissolution in this population.

## 1.2 | Friendship dissolution and maintenance

Of course, sometimes friendships do end. It is normative for friendships to form and break. Most adolescents report that they have ended a friendship (Flannery & Smith, 2021), and there is evidence that up to half of the close friendships of children and adolescents end within a year (Bowker, 2011; Chan & Poulin, 2007). Even more common than the complete termination of a friendship are downgrade dissolutions, in which the two people remain friends but are less close (Bowker, 2011). Although research on friendship dissolution has focused on children and adolescents, young adulthood may represent a period during which friendships are particularly likely to end or be downgraded, as people move to new locations (Oswald & Clark, 2003), explore new roles, and expand their social networks (Arnett, 2000).

The importance of high-quality friendships for the well-being of young adults makes it important to understand why their friendships may break up or weaken. Adults report that when friendships end, it is often due to physical separation or a slow process of drifting apart (Rose, 1984). However, work with children and adolescents indicates that dissolution also can occur in response to specific challenges in the friendship. For example, when asked why a friendship ended, adolescents most commonly cited a fight with or a betrayal by the friend (Flannery & Smith, 2021). Similarly, when asked how they would respond to provocation by a friend, some adolescents endorse ending the relationship (Dirks et al., 2011; MacEvoy & Asher, 2012). These findings suggest that sometimes dissolution may be a response to a specific problem that has arisen in the friendship.

To begin to map when and how young adults may end a friendship, Khullar et al. (2021) asked young adults how they would respond to challenges occurring with a close, same-gender friend. These hypothetical situations – all of which were identified as frequently occurring, difficult to manage, and important by an independent sample of young adults – were reliably classified as one of three types (Kirmayer et al., 2021): (1) Transgressions, in which one friend violated a core expectation of friendship (e.g., one friend revealed private information about the other; MacEvoy & Asher, 2012); (2) Conflicts of interest (hereafter referred to as conflicts), which occur when the needs, desires, or opinions of two friends are in opposition. Note that conflicts can involve behavior that one person does not like, or finds inappropriate or offensive, but they differ from transgressions in that one friend has not clearly wronged the other; (3) Support situations, which included difficulties related to the exchange of support (e.g., one friend is trying to help the other, but the support is experienced as intrusive or condescending). Results indicated that young adults described three types of dissolution behavior: ending the relationship completely, as well as two downgrade strategies, distancing oneself from the friend, and compartmentalizing the relationship (i.e., setting boundaries on certain topics and activities within the friendship). Reported use of these behaviors was highly situation-specific: Dissolution strategies were endorsed only in response to transgressions by the friend and conflicts, with both ending and distancing endorsed more frequently in the former situation.

These results indicate transgressions and conflicts are salient friendship challenges that may threaten the stability of the relationship. On the other hand, they also represent an opportunity to develop skills and strengthen the friendship. Transgressions and conflicts occur frequently in friendships (Kirmayer et al., 2021; Schumann & Ross, 2010). Thus, willingness to manage and resolve these situations will be a key factor in maintaining stable, high-quality friendships (Dunn, 2004; Laursen & Pursell, 2009). In addition to examining dissolution behaviors, then, it is also important to examine the extent to which young adults report that they would work on, or maintain, a friendship after experiencing a transgression by or a conflict with a friend.

## 1.3 | Gender differences in friendship dissolution and maintenance

Previous research has examined how and when young adults may choose to dissolve a friendship. What remains less clear is who engages in these behaviors; that is, are some young adults more likely than are others to end or downgrade a friendship? One important factor to consider is gender. Research has documented important differences

in the friendships of men and women. For example, women have higher expectations of their same-gender friends than do men (Hall, 2012; Oswald et al., 2004), and female friendships are characterized by greater intimacy (Clark & Ayers, 1993). Perhaps for these reasons, women experience conflict within friendship as more problematic than do men (Benenson et al., 2009; Johnson et al., 2004; Kirmayer et al., 2021), and take longer to reconcile with the friend (Benenson et al., 2014). Such findings suggest that women may be more likely to end or downgrade a friendship when challenges occur. However, Khullar et al. (2021) did not find that women and men differed in their endorsement of dissolution strategies in response to hypothetical transgressions and conflicts, and McDonald and Asher (2013) reported that men endorsed relationship termination strategies more strongly than did women in response to hypothetical conflicts with a friend. Although extant research tells an inconsistent story, the documented differences between men and women in their expectations for and experiences in friendship make it important to test for potential gender differences in the endorsement of dissolution and maintenance strategies in response to friendship challenges.

## 1.4 | Implicit theories of relationships

Existing research has looked at situation type and gender as predictors of how young adults manage challenging friendship scenarios. However, other potential factors require further investigation. In particular, the beliefs that young adults hold about the nature of friendship may shape how they respond to transgressions by and conflicts with a friend. Research has documented that individuals have implicit theories about the potential of their romantic relationships (Canevello & Crocker, 2011; Franiuk et al., 2002; Knee, 1998; Knee et al., 2003). Specifically, destiny beliefs reflect the extent to which relationships are viewed as immutable; that is, relationship partners are naturally compatible, and if they are not, nothing can change that fact. In contrast, growth beliefs capture the understanding that relationships can improve with effort. As described by Knee et al. (2003), the strength of destiny and growth beliefs may shape how people assign meaning to challenging situations. Individuals who more strongly endorse destiny beliefs may be more sensitive to potential signs that a relationship is not meant to be. As such, individuals holding high destiny beliefs about friendship may interpret transgressions and conflicts as evidence that two people should not be friends. In contrast, those who hold stronger growth beliefs may view transgressions and conflicts as a normal part of being close to someone and as an opportunity to develop the relationship further.

Consistent with these suppositions, the strength of destiny and growth beliefs about romantic relationships is associated with behavior in this interpersonal context (Knee, 1998; Knee et al., 2001, 2003). For example, greater endorsement of destiny beliefs is associated with engaging in dissolution strategies such as distancing from the partner following a negative relationship event, whereas stronger belief in growth is associated with use of relationship-maintaining strategies (Knee, 1998). Notably, individuals with stronger destiny beliefs were more likely to end a romantic relationship compared to those with weaker destiny beliefs (Le et al., 2010).

Knee et al. (2003, 2004) highlight that growth and destiny beliefs reflect separate dimensions and are not opposite ends of the same pole; thus, it is possible to be high on both destiny and growth beliefs. For example, someone may feel as though their romantic partner is their soulmate (high destiny), while at the same time believing a high-quality relationship requires effort (high growth). Although destiny and growth beliefs are meaningful as main effects, the interaction between them is also important (Knee et al., 2001, 2003). Individuals with high destiny and low growth beliefs are more likely to diagnose the potential of the relationship quickly, giving little attention to whether it could be improved. In contrast, individuals with high growth and low destiny beliefs are motivated to work on and develop their relationships gradually (Knee et al., 2003). Knee et al. (2001) found that following a conversation about relational disagreements, those with high growth and low destiny beliefs felt more hopeful whereas those with high destiny and low growth beliefs were more hostile. Such findings suggest that in addition to examining the direct associations between both growth and destiny beliefs and friendship outcomes, it is also important to consider the interaction between the two types of beliefs.

To date, little work has examined young adults' implicit beliefs about friendship. However, some research has examined the implicit beliefs that youth have of their peer relationships, documenting that some think that little can be done to improve their social relationships, (i.e., an entity view); whereas others feel relationships take effort to sustain and develop (i.e., an incremental view) (Cheung et al., 2016). Endorsement of these implicit beliefs is associated with children's interpretations of and responses to interpersonal situations. For example, Rudolph (2010) found that in response to social challenges, entity theorists were more likely to pursue performance-oriented goals (e.g., portraying a positive self-image). A second study found that the extent to which children endorsed destiny beliefs was not associated with friendship characteristics or outcomes; however, growth beliefs were associated positively with self-rated ability to solve conflicts in a friendship (Kempner, 2010). In sum, although work on implicit relationship theories has focused on romantic relationships, there is evidence that beliefs about the malleability of relationships extends to other contexts including friendships, and that these implicit theories may shape behavior with friends.

## 1.5 | Goals and hypotheses of present research

In the present study, we examined young adults' endorsement of three dissolution strategies – ending, compartmentalizing, and distancing – as well as their reports that they would try to maintain the relationship in response to hypothetical transgressions by and conflicts with a close same-gender friend. We had three objectives. First, we examined whether young adults' endorsement of dissolution and maintenance strategies differed in response to transgressions by and conflicts with a friend. Based on previous work conducted with an independent sample (Khullar et al., 2021), we expected dissolution strategies would be endorsed more strongly in situations in which a friend has transgressed than in conflicts of interest. Moreover, given that young adults view conflicts as less difficult than transgressions (Kirmayer et al., 2021), they may be more likely to think that conflicts could be resolved and thus more likely to endorse maintenance strategies in these scenarios. Second, we examined whether males and females differed in their endorsement of dissolution and maintenance strategies. Previous studies have not documented consistent gender differences in reported use of dissolution strategies (Khullar et al., 2021; McDonald & Asher, 2013); thus, we did not have clear hypotheses.

Finally, we tested whether theories of friendships were associated with endorsement of dissolution and maintenance strategies. Theoretically, those who hold stronger destiny beliefs are more likely to see challenges in a relationship as evidence of a fundamental incompatibility, whereas those who hold stronger growth beliefs will view challenges as surmountable. Empirically, research has shown that in response to stressors in a romantic relationship, stronger destiny beliefs were associated with greater disengagement whereas stronger growth beliefs were associated with greater maintaining behaviors (Knee, 1998). Thus, we hypothesized that higher destiny beliefs would be associated with greater endorsement of dissolution strategies, whereas higher growth beliefs would be associated with stronger endorsement of maintenance strategies. We also hypothesized that there would be an interaction between destiny and growth beliefs. Individuals high on destiny beliefs may be particularly unlikely to work on a relationship when they also hold low growth beliefs, as is evidenced by work documenting that individuals high on destiny and low on growth were increasingly bothered when discussing discrepancies in how their partners viewed their relationship (Knee et al., 2001). As such, we predicted that the relation between greater destiny beliefs and the endorsement of dissolution strategies would be stronger when growth beliefs are lower. In contrast, individuals with high growth and low destiny beliefs are more likely to believe that relationships can improve overtime and are less concerned with evaluating their potential (Knee et al., 2003). Thus, we hypothesized that the association between higher growth beliefs and greater endorsement of maintaining strategies would be stronger when destiny beliefs are lower.

## 2 | METHOD

### 2.1 | Participants

We recruited 162 undergraduate students at a large Canadian university. Seventeen participants were excluded from all analyses: four participants did not answer any questions, six participants only filled out the demographics, and seven participants did not complete the scale assessing implicit beliefs about friendship. Thus, the final analytic sample consisted of 145 participants ( $M_{age} = 20.71, SD = 1.46$ ). Of these, 55.2% identified as female, with all remaining participants identifying as male, 82.8% identified as heterosexual, and 55.9% of participants identified as non-Hispanic White. Other ethnic identities included Arab/West Asian (9.7%), Chinese (9.0%), and South Asian (6.9%). Participants were recruited from an extra-credit participant pool run by the Department of Psychology and received course credit as compensation for their time.

### 2.2 | MEASURES

#### 2.2.1 | Reported use of dissolution and maintenance strategies

We examined participants' endorsement of sixteen different strategies in response to twelve hypothetical situations occurring with a close, same-gender friend. Six vignettes described transgressions, in which the friend violates a core expectation of friendship (e.g., a friend reveals personal information to others) and six described conflicts of interest, in which the needs, desires, or opinions of two friends are in opposition (e.g., one friend uses language that the other finds inappropriate). All vignettes are presented in Supplementary Materials (Table S1). The twelve situations were each rated as frequently occurring, challenging to manage, and important by an independent sample of young adults (Kirmayer et al., 2021). Moreover, previous work has shown that some young adults report they would respond to these scenarios using the strategies of ending, distancing, or compartmentalizing (Khullar et al., 2021).

After each vignette, participants rated how likely they would be to engage in each strategy on a Likert scale ranging from 1 (Definitely would not do) to 7 (Definitely would do). Four items reflected ending the friendship, which involved a complete termination of the relationship (e.g., stop talking to him/her); five items reflected distancing from the friend (e.g., spend less time with this person) and four items reflected compartmentalizing the friendship (e.g., change the issues or topics you talk about with this person). Three items reflected maintenance strategies (e.g., work on improving this friendship). A list of all strategies is included in Supplementary Materials (Table S2). Confirmatory factor analysis indicated that a 4-factor model, with ending, distancing, compartmentalizing, and maintaining strategies each loading on a separate factor fit the data well, and better than 2- and 3-factor models (see Tables S3 and S4). See Supplementary Materials for a detailed description of these analyses. Alphas for each response category were excellent, both overall and in response to each of transgressions and conflicts: ending,  $\alpha$  overall = .92,  $\alpha$  transgressions = .92,  $\alpha$  conflicts = .91; distancing,  $\alpha$  overall = .96,  $\alpha$  transgressions = .96,  $\alpha$  conflicts = .95; compartmentalizing,  $\alpha$  overall = .92,  $\alpha$  transgressions = .90,  $\alpha$  conflicts = .89; and maintaining,  $\alpha$  overall = .96,  $\alpha$  transgressions = .97,  $\alpha$  conflicts = .94.

#### 2.2.2 | Implicit theories of friendship

To assess implicit theories of friendship, we adapted the Implicit Theories of Relationships Scale (Knee et al., 2003) by rewording the items to assess friendship instead of romantic relationships. The resulting Friendship Beliefs Scale consisted of 22 items, with 11 items assessing each of growth and destiny beliefs. Items were presented in random order. Destiny-belief items included: "Potential friends are either compatible or they are not," "A successful friendship is mostly a matter of finding a compatible friend right from the start," "Potential friends are either destined to get

along or they are not," "Friendships that do not start off well inevitably fail." Growth-belief items included: "The ideal friendship develops gradually over time," "A successful friendship evolves through hard work and resolution of incompatibilities," "Challenges and obstacles can make friendship even stronger," "Problems in a friendship can bring friends closer together." Participants rated each item on a 7-point Likert scale from 1 (Strongly disagree) to 7 (Strongly agree). Overall scores for growth and destiny beliefs were calculated by taking the mean score for each subscale. Consistent with work on the original scale (Knee et al., 2003), internal consistency of the destiny-beliefs subscale was good ( $\alpha = .86$ ), and the growth-beliefs subscale was adequate ( $\alpha = .72$ ). Growth and destiny beliefs were not correlated  $r = -.12$ ,  $p = .14$ .

### 2.2.3 | Procedure

Procedures were approved by the relevant Research Ethics Board and participants provided informed written consent. All materials were presented on the survey platform Qualtrics. Participants completed a short demographic questionnaire and then rated their endorsement of dissolution and maintenance strategies in response to hypothetical vignettes. Order of the vignettes and the response strategies following each scenario were each randomized. In response to each vignette, participants answered additional questions about their attributions, affect, and goals, and responded to the open-ended question "what would you say or do" in that situation. Participants then completed the Friendship Beliefs Scale, as well as several scales assessing psychological symptoms. Finally, participants described the last time they ended a friendship. Some of the data collected are beyond the scope of the current investigation and are not reported.

### 2.2.4 | Data analysis

Participants responded to twelve situations; thus, we used linear mixed modeling to test our hypotheses. The dependent variable was endorsement of response (i.e., participants' ratings of each strategy in each situation). Strategy (i.e., ending, distancing, compartmentalizing, maintaining) was included as a categorical predictor. Specifically, we constructed three dummy-coded variables, with compartmentalizing as the reference group. Thus, the interactions between Strategy and other variables (e.g., the interaction between Strategy and Destiny Beliefs) provided information about the association between that predictor and endorsement of each of ending, distancing, compartmentalizing, and maintaining. This approach allowed us to include all strategies in one model, rather than conducting four independent sets of analyses. Other predictors were: Situation, coded as conflict (0), transgression (1); Gender, coded females (0), males (1); and Destiny Beliefs, Growth Beliefs, and Age, all of which were continuous and mean-centered.

In all models, we estimated a random intercept across participants. We attempted to fit models in which the slopes of Strategy and Situation varied randomly across participants; however, these models yielded singularity warnings, which indicate that the model is overfit and the data do not support the random effect. Following best practice guidelines, we removed these random effects from our models (Barr et al., 2013). Although participants were crossed with situation, there is debate concerning whether twelve is an adequate number of clusters to estimate random effects (e.g., McNeish & Stapleton, 2016). For this reason, we did not estimate a random intercept across situation in our main analyses. Note that we conducted sensitivity analyses in which we re-ran all of the models with a random intercept across situation. These models converged without singularity warnings and the pattern of results did not change. Missing data were handled with list-wise deletion: 45 of 6960 cases (i.e., 145 participants x 12 situations x 4 strategies) were deleted.

Given the high number of levels for the random effects (i.e., 145 participants), we used likelihood ratio testing to assess the statistical significance of predictors (Bates et al., 2015). To answer each research question, a chi-square test was conducted to compare the fit of two models differing only in terms of the predictor of interest. This analysis

**TABLE 1** Descriptive statistics and between-participant correlations for study variables

	M	SD	Min	Max	1.	2.	3.	4.	5.	6.	7.
1. Ending	3.36	0.77	1.54	5.52	-						
2. Distancing	4.35	0.71	2.15	5.98	.75**	-					
3. Compartmentalizing	4.41	0.73	2.33	6.10	.65**	.81**	-				
4. Maintaining	4.84	0.88	2.28	6.86	-.60**	-.47**	-.33**	-			
5. Growth beliefs	4.82	0.69	2.55	6.82	-.03	-.03	.04	.32**	-		
6. Destiny beliefs	3.63	0.91	1.55	5.64	.30**	.11	.07	-.28**	-.12	-	
7. Gender	-	-	-	-	-.01	-.16*	-.20*	-.01	.10	-.10	-

Note. Descriptive statistics for each of ending, distancing, compartmentalizing, and maintaining strategies were computed based on the mean score for each participant across all twelve situations assessed. Gender coded females = 0; males = 1. Point-biserial correlations were used to measure the association between gender and continuous variables.

\* $p \leq .05$

\*\* $p < .001$ .

indicates whether the more complex model explains greater variability in the dependent variable, which is an index of the statistical significance of the additional predictor. All models were fit in R using the 'lme4' package (Bates et al., 2015). Model comparisons were conducted using the 'anova' function. Simple slopes were obtained for each model using the R package 'interactions' (Long, 2019).

Model 1 included fixed effects of Strategy, Situation, Destiny Beliefs, Growth Beliefs, Age, and Gender, and the random intercept across participant. We then constructed models testing each of our hypotheses in turn. In Model 2, we examined whether Situation types were associated differentially with endorsement of ending, distancing, compartmentalizing, and maintaining by adding an interaction between Situation and Strategy to Model 1. In Model 3, we added the interaction between Gender and Strategy to Model 2, which allowed us to examine whether gender was associated differentially with endorsement of each strategy. In Model 4, we looked at the association between destiny beliefs and endorsement of each strategy by adding an interaction between Destiny Beliefs and Strategy to Model 3. In Model 5, we added an interaction between Growth Beliefs and Strategy to Model 4. Finally, we tested whether there was an interaction between destiny and growth beliefs. To do so, we had to test a three-way interaction (i.e., Destiny Beliefs x Growth Beliefs x Strategy), which required all component two-way interactions to be in the model. Thus, we estimated Model 6, in which we added the Destiny Beliefs x Growth Beliefs interaction to Model 5, which already included two-way interactions between Strategy and each of Destiny and Growth Beliefs. In Model 7, we added the Destiny Beliefs x Growth Beliefs x Strategy interaction to Model 6.

### 3 | RESULTS

#### 3.1 | Situation and endorsement of dissolution and maintenance strategies

Table 1 presents descriptive statistics and between-participant correlations for study variables. Table 2 reports mean endorsement of each strategy type as a function of (a) gender, and (b) situation. Table 3 report the results of the mixed linear models (see also Table S5 in Supplementary Materials). To begin, adding an interaction between Situation and Strategy improved the fit of Model 1,  $\chi^2(3) = 370.68, p < .001$ . Simple slopes analyses revealed significant associations between Situation and each dissolution strategy: distancing,  $B = 1.40, SE = 0.07, t = 19.15, p < .001$ ; ending,  $B = 0.91, SE = 0.07, t = 12.40, p < .001$ ; and compartmentalizing,  $B = 0.65, SE = 0.07, t = 8.82, p < .001$ . Endorsement of each strategy was higher in friendship transgressions than conflicts. In contrast, the endorsement of maintenance strategies was higher in conflict situations,  $B = -0.54, SE = 0.07, t = -7.38, p < .001$ .



**TABLE 2** Mean (SD) endorsement of dissolution and maintenance strategies as a function of gender and situation type

	Men (N = 65)	Women (N = 80)	Transgressions (N = 145)	Conflicts (N = 145)
Ending	3.36 (0.78)	3.37 (0.77)	3.82 (1.01)	2.92 (0.73)
Distancing	4.22 (0.73)	4.45 (0.68)	5.04 (0.92)	3.65 (0.77)
Compartmentalizing	4.25 (0.74)	4.54 (0.70)	4.73 (0.90)	4.08 (0.78)
Maintaining	4.83 (0.92)	4.85 (0.85)	4.57 (1.09)	5.12 (0.84)

### 3.2 | Gender and endorsement of dissolution and maintenance strategies

A likelihood ratio test comparing Model 3 to Model 2 indicated that the Gender x Strategy interaction increased model fit,  $\chi^2(3) = 11.67, p = .01$ . Simple slope analyses revealed that gender was associated with distancing,  $B = -0.24, SE = 0.10, t = -2.52, p = .01$ , and compartmentalizing,  $B = -0.30, SE = 0.10, t = -3.13, p < .001$ . Women endorsed both of these strategies more strongly than did men. Gender was not associated with ending,  $B = -0.03, SE = 0.10, t = -0.29, p = .77$ ; or maintaining,  $B = -0.02, SE = 0.10, t = -0.19, p = .85$ .

### 3.3 | Destiny and growth beliefs and endorsement of dissolution and maintenance strategies

The likelihood ratio test comparing Model 4 to Model 3 indicated that adding the Destiny Beliefs x Strategy interaction improved fit,  $\chi^2(3) = 88.71, p < .001$ . Adding the interaction between Growth Beliefs and Strategy to Model 4 improved fit again,  $\chi^2(3) = 34.12, p < .001$ . We then conducted simple slopes analyses examining the association between destiny and growth beliefs and each strategy. Greater destiny beliefs were associated with lower endorsement of maintaining,  $B = -0.26, SE = 0.05, t = -4.99, p < .001$ , and greater endorsement of ending,  $B = 0.27, SE = 0.05, t = 5.09, p < .001$ . Destiny beliefs were not associated with compartmentalizing,  $B = 0.05, SE = 0.05, t = 0.96, p = .34$ , or distancing,  $B = 0.08, SE = 0.05, t = 1.51, p = .13$ . Higher growth beliefs were associated with greater endorsement of maintaining,  $B = 0.38, SE = 0.07, t = 5.46, p < .001$ . None of the associations between growth beliefs and dissolution responses were significant: ending,  $B = 0.01, SE = 0.07, t = 0.18, p = .86$ ; distancing,  $B = -0.01, SE = 0.07, t = -0.09, p = .93$ ; and compartmentalizing,  $B = 0.07, SE = 0.07, t = 1.02, p = .31$ .

Model 6, which included an interaction between destiny and growth beliefs, did not fit the data better than Model 5,  $\chi^2(1) = 0.39, p = .53$ ; however, in Model 7 we added a three-way interaction between Destiny Beliefs, Growth Beliefs, and Strategy, which did increase model fit,  $\chi^2(3) = 17.56, p < .001$ . We decomposed the interaction two ways, in order to look at the association between destiny beliefs and endorsement of each of ending, distancing, compartmentalizing, and maintenance at different levels of growth beliefs and the associations between growth beliefs and endorsement of each strategy at different levels of destiny beliefs.

Results are depicted in Figures 1 and 2. For both ending and maintaining, the associations between destiny beliefs and each of these strategies was significant at all levels of growth beliefs tested; however, the association between destiny beliefs and response endorsement strengthened as growth beliefs increased. Specifically, destiny beliefs were associated positively with ending at 1 SD below the mean,  $B = 0.16, SE = 0.07, t = 2.23, p = .03$ ; at the mean,  $B = 0.26, SE = 0.05, t = 4.93, p < .001$ , and at 1 SD above the mean,  $B = 0.36, SE = 0.07, t = 5.12, p < .001$ . Destiny beliefs were associated negatively with maintaining when growth beliefs were 1 SD below the mean,  $B = -0.14, SE = 0.07, t = -2.02, p = .04$ , at the mean,  $B = -0.24, SE = 0.05, t = -4.56, p < .001$ , and 1 SD above the mean,  $B = -0.34, SE = 0.07, t = -4.78, p < .001$ . Destiny beliefs were not associated with endorsement of distancing and compartmentalizing at any

**TABLE 3** Results of mixed linear models examining associations between response endorsement and strategy, situation, gender, and destiny and growth beliefs

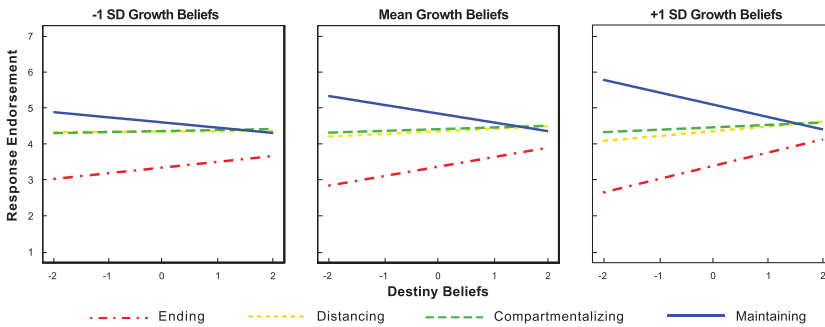
	Coefficient (Standard Error)	P Value	Model comparison
Model 1			
Age	-0.01 (0.02)	.633	
Gender	-0.15 (0.07)	.043	
Strategy			
Ending	-1.04 (0.05)	< .001	
Distancing	-0.06 (0.05)	.225	
Maintaining	0.44 (0.05)	< .001	
Situation	0.61 (0.04)	< .001	
Destiny Beliefs	0.03 (0.04)	.391	
Growth Beliefs	0.11 (0.05)	.030	
Model 2			Model 2 vs. Model 1 $\chi^2(3) = 370.68, p < .001$
Strategy x Situation			
Ending x Situation	0.26 (0.10)	.011	
Distancing x Situation	0.75 (0.10)	< .001	
Maintaining x Situation	-1.19 (0.10)	< .001	
Model 3			Model 3 vs. Model 2 $\chi^2(3) = 11.67, p = .009$
Strategy x Gender			
Ending x Gender	0.27 (0.10)	.009	
Distancing x Gender	0.06 (0.10)	.577	
Maintaining x Gender	0.28 (0.10)	.007	
Model 4			Model 4 vs. Model 3 $\chi^2(3) = 88.71, p < .001$
Strategy x Destiny Beliefs			
Ending x Destiny Beliefs	0.22 (0.06)	< .001	
Distancing x Destiny Beliefs	0.03 (0.06)	.608	
Maintaining x Destiny Beliefs	-0.31 (0.06)	< .001	
Model 5			Model 5 vs. Model 4 $\chi^2(3) = 34.12, p < .001$
Strategy x Growth Beliefs			
Ending x Growth Beliefs	-0.06 (0.08)	.437	
Distancing x Growth Beliefs	-0.08 (0.08)	.304	
Maintaining x Growth Beliefs	0.31 (0.08)	< .001	
Model 6			Model 6 vs. Model 5 $\chi^2(1) = 0.392, p = .531$
Destiny Beliefs x Growth Beliefs	0.03 (0.05)	.541	

(Continues)

**TABLE 3** (Continued)

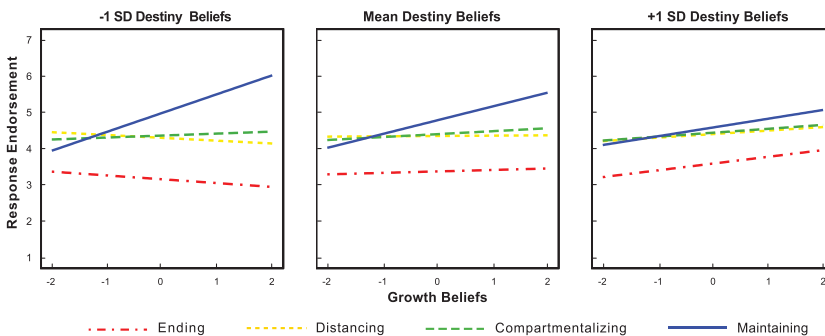
	Coefficient (Standard Error)	P Value	Model comparison
Model 7			Model 7 vs. Model 6 $\chi^2(3) = 17.56, p < .001$
Strategy x Destiny Beliefs x Growth Beliefs			
Ending x Destiny Beliefs x Growth Beliefs	0.12 (0.07)	.098	
Distancing x Destiny Beliefs x Growth Beliefs	0.06 (0.07)	.399	
Maintaining x Destiny Beliefs x Growth Beliefs	-0.17 (0.07)	.021	

Notes. All models included a random intercept across participants. Strategy was dummy coded with Compartmentalizing as the reference category. Gender coded females = 0; males = 1. Situation coded Conflicts = 0; Transgressions = 1. Unstandardized coefficients are reported. Each model includes all of the terms in the comparison model. For brevity, this table includes only terms that are new to each model. For a complete report of the models, see Table S5 in supplementary materials.



**FIGURE 1** Associations between destiny beliefs and endorsement of dissolution and maintenance strategies at different levels of growth beliefs

level of growth beliefs. As shown in Figure 2, the magnitude of the positive association between growth beliefs and endorsement of maintaining decreased as destiny beliefs grew stronger: 1 SD below the mean,  $B = 0.49, SE = 0.09, t = 5.66, p < .001$ ; mean,  $B = 0.36, SE = 0.07, t = 5.04, p < .001$ ; 1 SD above the mean,  $B = 0.23, SE = 0.10, t = 2.23, p = .03$ . Growth beliefs were not associated with dissolution strategies at any level of destiny beliefs.



**FIGURE 2** Associations between growth beliefs and endorsement of dissolution and maintenance strategies at different levels of destiny beliefs

## 4 | DISCUSSION

High-quality friendships are a key source of support for young adults (Carbery & Buhrmester, 1998), making it important to understand when and why young adults may choose to dissolve or maintain these relationships. Research has identified the strategies young adults report using to end or downgrade their friendships (Khullar et al., 2021; Kirmayer et al., 2021). We built on this work by recruiting an independent sample to examine whether situation, gender, and implicit theories of friendship were associated with young adults' endorsement of dissolution and maintenance strategies in response to challenging situations with a same-gender friend.

### 4.1 | Situation, gender, and endorsement of dissolution and maintenance strategies

We first examined how situation impacted young adults' endorsement of dissolution and maintaining strategies, focusing on conflicts and transgressions by the friend, both of which have been identified as challenging situations that may lead to friendship dissolution (Khullar et al., 2021; Kirmayer et al., 2021). As hypothesized, participants endorsed dissolution strategies more strongly in response to transgressions than to conflicts. In contrast, compared to transgressions, conflicts were associated with stronger endorsement of maintenance strategies. Consistent with previous work (Khullar et al., 2021), our findings suggest that transgressions, in which a friend violates a core expectation of friendship, are the circumstances in which young adults are most likely to end or downgrade the relationship. On the other hand, in situations in which neither friend has directly wronged the other (i.e., conflicts), young adults may be more willing to work on the relationship. These findings align with earlier work documenting that young adults evaluate transgressions as more difficult to manage and more critical than conflicts (Kirmayer et al., 2021). Taken together, there is growing evidence that conflicts of interest and transgressions are distinct circumstances and that work to map the psychological features of these situations which shape behavioral responses may help promote more adaptive functioning in friendships.

Although previous research did not support strong hypotheses, we also examined whether the strength of response endorsement varied by gender. Results revealed that females endorsed distancing and compartmentalizing strategies more strongly than did males, but women and men did not differ in their endorsement of ending or maintaining the friendship. Our findings suggest that in the face of a friendship challenge, women may be more likely than men to place restrictions on the friendship and to diminish friendship closeness. It might be the case that when challenges arise, women's greater expectations of friendship (Hall, 2012; Oswald et al., 2004) lead to more hurt feelings and a desire to create space, but because women are generally more invested in their friendships (Dunbar, 2018), they may not want to discontinue the relationship entirely. These observed differences between men and women should be interpreted cautiously given that research on gender differences in friendship dissolution have yielded equivocal findings. For example, our previous study examining young adults' reported use of dissolution strategies in response to friendship challenges yielded no differences between men and women in endorsement of any strategy (Khullar et al., 2021).

The findings of Khullar et al. (2021) also differed from the current work in that they found that endorsement of compartmentalizing did not vary across situation, whereas in this study participants endorsed compartmentalizing more strongly in response to transgressions than to conflicts. These discrepancies could be due to differences in methodologies. In particular, Khullar et al. (2021) interviewed participants, asking them to generate open-ended responses to friendship challenges which were then coded for the presence of dissolution strategies. In contrast, participants in the current study rated how likely they would be to engage in the response. The former strategy yielded dichotomous outcome variables and low prevalence of the dissolution responses, both of which may have reduced statistical power.

## 4.2 | Implicit theories of friendship and endorsement of dissolution and maintenance strategies

A primary objective of this work was to examine whether young adults' destiny and growth beliefs about friendship were associated with their endorsement of dissolution and maintenance strategies. As hypothesized, stronger destiny beliefs were associated with greater endorsement of ending the friendship. This result is consistent with research showing that stronger destiny beliefs are associated with more positive evaluations of "ghosting" a friend (i.e., never speaking to them again; Freedman et al., 2018) as well as greater likelihood of ending a romantic relationship when a partner is not perceived as the ideal fit (Franiuk et al., 2002). Within a friendship, it may be that people holding stronger destiny beliefs perceive transgressions and conflicts to be indicative of a fundamental incompatibility, which may then lead them to end the relationship. Strength of destiny beliefs was not associated with endorsement of distancing and compartmentalizing, dissolution strategies that diminish friendship closeness. Perhaps greater destiny theorists view challenges in a friendship to be such a threat to the quality and stability of the relationship that they are more inclined to terminate the friendship completely.

Our results also revealed that higher destiny beliefs were associated with weaker endorsement of maintaining strategies, suggesting that stronger beliefs that friendships are immutable also may translate into not working on the relationship when problems occur. This finding is consistent with work by Knee (1998), who found that when faced with a negative event in a romantic relationship, destiny theorists were more likely to refrain from engaging in maintaining-coping strategies. Like romantic relationships, friendships are voluntary, and it may be that people who hold stronger destiny beliefs about friendships are more inclined to simply leave a friendship when they perceive a friend as incompatible.

In contrast to destiny theorists, individuals holding stronger growth beliefs think that relationships can improve and thus may be more likely to work on and invest in their friendships (Knee et al., 2003). As hypothesized, we found that growth beliefs were associated positively with endorsement of maintenance strategies in response to friendship challenges. Growth theorists believe that effort can make a relationship work. In fact, growth theorists embrace conflict, viewing it as an opportunity to strengthen the relationship (Knee, 1998). Our results are consistent with the idea that young adults with higher growth beliefs also might be more likely to view challenges within friendships as an opportunity to grow closer. Although it is plausible that growth beliefs might also be associated with weaker endorsement of dissolution strategies, our data did not support this supposition. Our findings suggest that growth beliefs are associated with whether young adults choose to overcome a problem in a friendship (e.g., by trying to work it out) but may not inform whether they choose to downgrade or end a relationship.

Knee et al. (2003) highlight that growth and destiny beliefs are independent of each other, and as such, should be considered together. And indeed, we found that the association between young adults' reported responses to friendship challenges and each of these implicit beliefs varied as a function of the other. As hypothesized, the positive association between growth beliefs and endorsement of maintenance strategies strengthened as destiny beliefs weakened (see Figure 2). This finding – which is consistent with research on romantic relationships (Knee et al., 2003) – suggests that when growth beliefs are higher and destiny beliefs are lower, young adults may be more inclined to work on their friendship, perhaps because as destiny beliefs weaken, the need to diagnose the potential of the relationship becomes less important (Knee et al., 2003).

We also examined how the associations between destiny beliefs and endorsement of dissolution and maintenance strategies varied as a function of growth beliefs, hypothesizing that destiny beliefs would be associated more strongly with dissolution responses when growth beliefs were weaker. In contrast, we found that the associations between higher destiny beliefs and (a) greater endorsement of ending the friendship, and (b) weaker endorsement of maintaining the friendship, both strengthened as growth beliefs increased. These findings were unexpected; however, support for the theoretical claim that individuals who hold stronger destiny beliefs are even more likely to view conflict and disagreement as insurmountable when their growth beliefs are weaker (Knee et al., 2003), comes primarily from research on romantic relationships. Differences between this interpersonal context and that of friendship may explain

our results. For example, young adults may perceive that it is easier to replace a friend than a romantic partner, given that many will have multiple friends in their social networks (Dunbar, 2018). As such, young adults holding both high destiny and high growth beliefs may think that ending a given friendship due to incompatibility will allow them to move on and develop other friendships. Although replication must be attempted before firm conclusions are drawn, these data contribute to a growing body of evidence highlighting the importance of considering how destiny and growth beliefs work together.

### 4.3 | Limitations and future directions

Our findings provide new insight into when and why young adults may dissolve or maintain their friendships; however, limitations must be noted. We examined endorsement of responses to hypothetical vignettes, which allowed us to present multiple standardized scenarios. Ample work shows that endorsement of responses to vignettes is associated with other measures of behavior (e.g., Dirks et al., 2017; Dodge et al., 2015) and with key indices of adjustment, such as friendship quality (e.g., Rose & Asher, 2004). Nonetheless, future work should identify factors linked to young adults' reports of actual friendship dissolutions, as well as how they respond to challenges with friends in their everyday lives.

In the present study, participants imagined that scenarios were occurring with a close, same-gender friend. An important next step will be to examine how key characteristics of the friendship, such as quality and length, are associated with dissolution and maintenance. For example, young adults may be less willing to end a friendship that is closer or longer standing. It also will be important to examine the processes and provisions of mixed-gender friendships during young adulthood. We investigated same-gender friendships as they are important emotional resources for young adults (Weisz & Wood, 2005). However, mixed-gender friendships become increasingly common across adolescence (Mehta & Strough, 2009). For this reason, it is essential to conduct research examining the challenges occurring in these relationships, as well as the benefits they confer. Future work should also examine the friendship experiences of young adults who are non-binary. Expanding our focus beyond same-gender friendships is essential for advancing understanding of the functions of friendship during young adulthood.

Future research also should examine the extent to which our findings concerning the associations between implicit beliefs of friendship and reported use of dissolution and maintenance strategies generalize to other samples of young adults, including those who are not students, as well as to earlier developmental periods. Children and adolescents hold implicit beliefs about the malleability of their peer relationships that are linked to their social goals and interpersonal behavior (e.g., Kempner, 2010; Rudolph, 2010). Thus, it may be the case that a similar pattern of results would be observed with younger samples. On the other hand, the friendships of young adults differ from those of children and adolescents in ways that may shape dissolution and maintenance processes. For example, friend networks expand through adolescence and into young adulthood (Wrzus et al., 2013). Having more friends may make it easier to ignore a problem with a given friend, or, conversely, to dissolve a particular relationship. Longitudinal research tracking experiences of friendship dissolution could provide insight into the contextual and intrapersonal features that shape this process during different development periods.

Longitudinal work also could elucidate how interpersonal experiences influence the development of implicit theories of relationships. Implicit theories can be conceptualized as schematic knowledge structures molded by relational experiences, both directly and through observation of others (see Knee et al., 2003). A clear next step is to elucidate whether and how interactions with parents, siblings, and friends strengthen and weaken destiny and growth beliefs in the context of different interpersonal relationships.

## 5 | CONCLUSION

This study advances knowledge of friendship processes during young adulthood by examining how situation, gender, and implicit beliefs about friendship were associated with endorsement of dissolution and maintenance strate-

gies. Results indicated that friendship transgressions may represent a particular threat to the friendships of young adults. Moreover, higher destiny beliefs were associated with greater endorsement of ending the friendship and lower endorsement of maintenance strategies, whereas higher growth beliefs were associated with greater endorsement of maintenance. Ultimately, there may be value in targeting implicit friendship beliefs in interventions designed to help young adults develop and maintain high-quality friendships.

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## CONFLICT OF INTEREST

The authors do not have any conflict of interest to report.

## ETHICS APPROVAL STATEMENT

All procedures were approved by McGill University's Research Ethics Board and participants provided informed written consent.

## DATA AVAILABILITY STATEMENT

All data, materials, and analytic code are available from the corresponding author upon reasonable request.

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