

UNDERSTANDING RECONCILIATORY UNWANTED PURSUIT BEHAVIOURS  
FOLLOWING TEMPORARY BREAKUPS AND WITHIN ONGOING  
RELATIONSHIPS

by

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## Abstract

Unwanted pursuit behaviours (UPBs) describe a wide range of harassment, tracking, and monitoring behaviours that occur in the context of an intimate relationship. UPBs are extremely common following breakups in emerging adulthood and have been associated with pervasive negative mental health outcomes for the victim. UPBs have been divided into ‘lower severe’ reconciliatory-motivated behaviours and ‘higher severity’ retaliatory-motivated behaviours. The purpose of this research was to test a complex model of reconciliatory UPBs in two next contexts, temporary breakups, and ongoing relationships (iUPBs).

Participants ( $n = 502$ ) ranging from 19 to 38 years old ( $M = 25.9$ ) who had previously experienced a breakup with their current partner were recruited via online crowdsourcing. Participants completed psychometrically sound measures that assess relevant areas of personality, mental health, current relationship characteristics, as well as variables associated with relational goal pursuit theory (RGPT), which includes behaviours, thoughts, and feelings associated with their most recent temporary breakup. Structural equation modelling was used to test our predicted model of reconciliatory UPBs within temporary relationships.

UPBs were used by the majority of participants within temporary breakups and ongoing relationships. Using a greater range of UPB strategies within a temporary breakup was associated with greater symptoms of anxiety, while using a greater range of UPBs within an ongoing relationship (iUPBs) was associated with greater symptoms of anxiety and depression and low relationship satisfaction. The final model of UPB use was found to be a strong fit with the data. The latent variable of relational goal pursuit theory

(RGPT) mediated the relationships between the independent variables in the model (iUPBs, the perceived quality of alternatives, emotion regulation, anxious attachment) and UPB use during temporary breakups. Among RGPT variables, rumination, breakup distress, and rationalization contributed more to the model when compared to goal-linking and self-efficacy.

These findings have important implications for understanding UPBs in different relational contexts, for understanding the mental health and relational outcomes of individuals who use UPBs, and for understanding the complex relationships between variables that underlie these behaviours. The opportunity for educational and clinical interventions to help mitigate the negative outcomes associated with UPBs is discussed.

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## **Chapter I: Introduction**

In 1989, celebrity actress Rebecca Schaeffer was killed in front of her home in Los Angeles by an obsessed fan who had been tracking and harassing her for over three years. The end of the twentieth century coincided with several other similar high-profile cases entering the public spotlight of celebrities being persistently harassed, threatened, and even murdered (Spitzberg & Cupach, 2006). Film, television, and literature were flooded with gruesome and violent accounts of people who stalked, such as Martin Scorsese's villain in *Cape Fear*. Before the 1990s, law authorities were typically unable to prosecute individuals who participated in such behaviour, and thus victims had little protection or recourse. Significant public pressure on lawmakers resulted in the introduction of legislation criminalizing the act of stalking in California in 1990. Similar laws were quickly adopted throughout the USA and internationally within the following decade (Spitzberg & Cupach, 2006).

### **Overview of Stalking Literature**

Despite slight differences existing between jurisdictions, legal definitions of stalking have generally captured pursuit that is intentional, repeated, unwanted and evokes fear in the target (Cupach & Spitzberg, 2004). The subjectivity associated with this legal definition allows for a significant degree of bias. Juries were to decide which situations would "reasonably" result in a target feeling afraid or threatened. Yet the high burden of evidence required for a criminal conviction made it challenging for juries to determine that the continued pursuit was "truly" unwanted. In line with this problem, stalkers have been found to both overestimate the acceptability of their behaviour and underestimate the harm to the target (Cupach & Spitzberg, 2004).

A meta-analysis of 175 international studies assessing stalking behaviour found the lifetime prevalence of stalking victimization to be 25% (Spitzberg & Cupach, 2006). Women are approximately three times more likely to report being a victim of stalking than men (Black et al., 2011), with the average stalking episode lasting 22 months. Large-scale studies in the United States have found that between 8 to 12% of women have experienced stalking compared to 2 to 4% of men (Basile et al., 2006). Statistics Canada (2011) reported that stalking is implicated in 4.8% of violent crimes, and a US study found that 1.4% of individuals were targeted by stalkers within the past year (Bureau of Justice, 2022). Thirty-two percent of individuals who were stalked reported that physical violence was involved, whereas 12% reported that sexual violence was involved (Spitzberg & Cupach, 2006). Emerging adults are the group most likely to experience stalking victimization (Baum et al., 2009), an event that colours an important developmental period for the onset and maintenance of intimate relationships and relationship skills.

### **Defining Unwanted Pursuit Behaviours**

Stalking research has generally been restricted to forensic populations who participate in the most severe forms of the behaviour (Spitzberg et al., 2010). The lack of a clear distinction between stalking and other unwanted intrusive behaviours resulted in several new operationalizations in the literature. “Obsessional relational intrusions” (ORI) often refers to a wide range of pursuit behaviours that the individual uses in attempts to reconcile the relationship the target rejects (Cupach & Spitzberg, 2004). “Post-relationship contact and tracking” (PRCT; Lee & O’Sullivan, 2014) also is a term

that has been used by researchers looking to capture a broader range of pursuit behaviours outside of the narrow legal definition of stalking.

It is common for individuals to feel a sense of loss after a breakup and motivation to reconnect with an ex-partner. The term “unwanted pursuit behaviours” (UPBs) is used to describe a wide range of harassment, tracking, and monitoring that typically occur in the context of an intimate relationship (Cupach & Spitzberg, 2004). The definitions of stalking and UPBs certainly have a large degree of overlap. The most pertinent distinction is that UPBs do not require the subjective experience of fear (Spitzberg & Cupach, 2006). Half of all stalking cases are thought to be directly related to intimate relationships (Spitzberg & Cupach, 2006), whereas UPBs relate entirely to motives of intimacy (De Smet et al., 2011). More explicitly, UPBs have been defined as “the repeated and unwanted pursuit of intimacy through violation of physical and/or symbolic privacy” (Spitzberg & Cupach, 2006, p. 66).

Research on stalking generally has focused on severe behaviours, such as making threats, theft, physical violence, and sexual violence (e.g., Dunn, 2002; Sheridan & Davies, 2001). This narrow legal definition of stalking does not permit a full understanding of the mechanisms underlying the behaviour (Thompson et al., 2012). Many behaviours, such as online tracking, excessive attempts at contact, or leaving unwanted gifts, are subsequently not captured in research focused on stalking alone (Thompson et al., 2012). In contrast, UPBs encompass a wider range of less severe behaviours that were not previously included in stalking research (e.g., monitoring social media, leaving unwanted gifts) (Cupach et al., 2011; Dardis & Gidycz, 2017).

Operationalizing UPBs as existing on a continuum from benign to severe allows for a more comprehensive assessment of the behaviour.

### **Context of Unwanted Pursuit Behaviours**

One largely unexplored area of unwanted pursuit behaviours is the context of their use. To our knowledge, all research to date has operationalized UPBs as occurring post-relationship breakup (e.g., Dardis & Gidycz, 2019; De Smet et al., 2015; Foshay & O’Sullivan, 2019). Subsequently, UPBs have been examined only after a dissolution occurs, and theories and empirical work have not accounted for similar behaviours that occur within intact relationships. Furthermore, research has not considered that breakups may be temporary, and some attempts to reconcile are successful. Thus, the purpose of the current research is to explore UPBs in two novel contexts: (1) temporary breakups, and (2) intact relationships. Young adults were recruited for the study to allow for comparisons with the majority of the existing research and the high prevalence of UPBs in this group. The implications of work on this topic are especially important for emerging adults who are learning to navigate the complexity and intensity of romantic relationships. Emerging adulthood is a developmental period characterized by the development of intimacy skills, short-term intimate relationships, and high relational turnover (Arnett, 2015). Trends have seen more individuals remaining unmarried into their 30s and beyond (Brown & Wright, 2017). Subsequently, the current study expanded the age range to 38 to determine whether UPB use remains consistent into the fourth decade of life.

### ***Unwanted Pursuit Behaviours Following Permanent Relationship Dissolution***

Difficulties adjusting to the dissolution of an intimate relationship have received considerable research attention (e.g., Amato, 2000; Cupach & Spitzberg, 2004; De Smet et al., 2011). For example, attachment processes are activated following the loss of a relationship, which often results in a cognitive and emotional preoccupation with the former partner (Sweeper & Halford, 2006). Psychological consequences are viewed as multidimensional in nature, involving both severe general stress reactions (e.g., anxiety and depression) and specific stress reactions to the loss of the relationship (e.g., negative affect related to the breakup, loneliness, withdrawal) (Amato, 2000).

Perhaps reflecting stereotyped portrayals in the media, strangers are typically considered to be the most common and dangerous perpetrators of stalking behaviour (Dennison, 2007). However, ex-partners are much more likely than strangers to participate in such behaviour (Alexy et al., 2005). Estimates suggest that 79% of unwanted pursuit is done by someone familiar with the target, with 50% involving an ex-partner (Cupach & Spitzberg, 2004). Ex-partners also have been found to engage in more severe and persistent behaviours than strangers (Alexy et al., 2005; Dennison, 2007; Scott et al., 2010). These faulty perceptions also seem to affect the judicial system, as a group of researchers in the UK found that almost half (41%) of stalking cases were thrown out when involving an ex-partner compared to no cases that involved a stranger (Scott et al., 2010).

What makes partner stalking more severe and persistent than other forms of pursuit? Logan and Walker (2009) suggested that relational history and context play a significant role. Psychological abuse, sexual assault, and physical violence commonly

characterize these previous intimate relationships. A study interviewing stalking victims found that physical assault was reported within the relationship by 81% of victims and sexual assault was reported by 31% (Tjaden & Thoennes, 1998). In addition, subtle relational cues and reminders of past abuse developed in the relationship may go unnoticed by outsiders but are often an ever-present reminder for the victim.

Psychologically, these individuals experience much greater distress and fear due to their experience with past abuse (Logan & Walker, 2009). Intimate knowledge of the victim allows the pursuer to engage in a greater number of effective psychological tactics. For example, intimate knowledge of a partner's schedule or common hang-out spots may make it easier to harass and monitor them (Logan & Walker, 2009). Ex-partners also are more likely to be aware of the target's fears, weaknesses, and secrets that may aid in their pursuit. Invading an individual's private life is a commonly employed tactic for ex-partner pursuit. If the ex-partner has had a child with the target, the child may be used to control or pressure the ex-partner (e.g., threatening custody battles, kidnapping) (Logan & Walker, 2009). UPBs among ex-partners appear to represent both unique and severe risks to the target.

### ***Temporary Breakups***

Dating relationships in emerging adulthood frequently follow a breakup-reconcile pattern (Halpern-Meekin et al., 2013b). This was discovered as a result of heightened interest in forms of instability in emerging adult relationships apart from breakups (Dailey et al., 2010). This phenomenon has been labelled relational churning (hereby referred to as temporary breakups), and it is estimated that 40% of current emerging adult relationships have experienced at least one temporary breakup (Halpern-

Meekin et al., 2013b). It is not uncommon for temporary breakups to occur several times during an intimate relationship (Dailey et al., 2009).

A relevant study explored the experience of temporary breakups in emerging adult populations (Halpern-Meekin et al., 2013b). Participants included 792 emerging adults ( $M_{\text{age}} = 20.3$ ) from the Midwestern United States who had recently been in a dating or cohabitating relationship. The study aimed to assess relationship satisfaction, verbal abuse, and physical conflict within relationships described as either stable, consistently dissolved, or having a history of temporary breakups (Halpern-Meekin et al., 2013b). Relationships with previous temporary breakups were twice as likely as stable relationships (either together or dissolved) to report physical conflict, and 50% more likely to report verbal abuse. Having a history of temporary breakups was associated with more negative consequences than either permanently dissolved or stable relationships (Halpern-Meekin et al., 2013b).

A separate study exploring temporary breakups found that individuals were more likely to report consistent abuse upon reconciliation compared to individuals in more stable relationships (Halpern-Meekin et al., 2013a). Moreover, couples who previously experienced a temporary breakup participated in fewer relational maintenance behaviours (e.g., being cooperative, spending quality time with a partner, showing patience). However, couples with a history of temporary breakups experienced heightened positive relational qualities, such as more frequent intimate self-disclosure (Halpern-Meekin et al., 2013a). These positive intimate relational qualities that are characteristic of couples with a breakup history may motivate the individuals to reconcile repeatedly despite a high degree of conflict, relationship strain, and abuse.



UPBs have traditionally been examined following the dissolution of an established relationship (Brownhalls et al., 2019; Cupach et al., 2011). Temporary breakups represent a promising, unexplored area of intimate relationship research that may allow for greater insight into the mechanisms underlying these behaviours. UPBs used within a temporary breakup may be distinct from those used when relationships are permanently dissolved. The reconciliation of the intimate relationship even following unwanted, intrusive behaviour may suggest that some UPBs are effective, less harmful, or more conducive to relationship reconciliation than others. UPBs that result in the successful reconciliation of a relationship present a valuable source of information regarding the utility and effectiveness of these behaviours in reuniting with a partner.

#### ***Unwanted Pursuit Behaviours Within Intact Relationships***

Although research to date has conceptualized UPBs as behaviours employed following a relationship breakup, rather than within stable intact relationships (Cupach & Spitzberg, 2004), one construct that has been assessed in the UPB literature that is especially relevant to intact relationships is relational jealousy. Jealousy within intact relationships has been associated with the increased use of post-breakup UPBs (Muisse et al., 2009; 2014; Tassy & Winstead, 2014). In the context of an intimate experience, jealousy has been conceptualized as having three components: cognitive jealousy (having suspicious thoughts about a partner); emotional jealousy (strong negative emotions in response to a partner's potential interest in others); and behavioural jealousy (actions in response to feelings of jealousy) (Scheinkman & Werneck, 2010; Tassy & Winstead, 2014).

A study of 242 North American undergraduate students between the ages of 18 and 21 asked students to recall a relationship where they had “trouble letting go,” and to report any UPBs used post-breakup. It was found that behavioural jealousy, but not cognitive or emotional jealousy, was a robust predictor of post-breakup UPBs (Tassy & Winstead, 2014). Research by Muise et al. (2009; 2014) further confirmed the significance of behavioural jealousy within intact intimate relationships. Using both correlational and experimental designs, relational jealousy was associated with increased partner monitoring on Facebook within the relationship (Muise et al., 2014). These findings suggest that tracking and monitoring behaviours can first emerge within intact relationships (Muise et al., 2014) and might persist after a relationship ends.

Relationships described by high levels of behavioural jealousy tend to show high levels of post-breakup UPBs (Logan & Walker, 2009; Tassy & Winstead, 2014). An examination of measures of behavioural jealousy found that items strongly overlapped with measures of UPBs. For example, the behavioural jealousy subscale from the widely adopted Multidimensional Jealousy Scale (Pfeiffer & Wong, 1989) includes items such as tracking a partner’s location, looking through their belongings and calling them excessively. These items are similar to those on UPB measures, such as the Unwanted Pursuit Behaviour Inventory (UPBI; Palarea & Langhinrichen-Rohling, 1998). Therefore, behavioural jealousy may simply be one form of UPB used within intact relationships. Behavioural jealousy will herein be subsumed under the term “intact relational UPBs (iUPBs)” for the sake of consistency and clarity. UPBs that occur following a breakup are referred to as “post-breakup UPBs,” which can be in the context of permanent or temporary dissolutions.

Compared to measures of behavioural jealousy, measures of UPBs generally include a more comprehensive range of monitoring, tracking, and harassment behaviour (Cupach & Spitzberg, 2004). Intact relational UPBs (iUPBs) represent more than just a behavioural response to relational jealousy, but also reflect an overall desire to preserve an intimate relationship. Intact relational UPBs can be defined as the repeated use of unwanted and/or excessive tracking, monitoring, and harassment behaviour within a stable relationship. It is important to note that intact relational UPBs and post-breakup UPBs differ both temporally and in the presentation of the behaviour. Certain UPBs within intact relationships (e.g., excessively questioning a current partner about past relationships, interrupting a partner when they talk to a member of the opposite sex) would not make sense to measure following a breakup. Conversely, certain UPBs used post-breakup (e.g., occasionally trying to contact an ex-partner, waiting outside their place of work) would not be measured within intact relationships. The “unwanted” nature of the behaviour also will differ between the two categories of UPBs. For example, the threshold for excessive or unwanted contact will generally be lower post-breakup compared to an intact relationship. The current research attempts to broaden our conceptualization of UPBs outside of permanent dissolutions, capturing efforts to preserve or re-establish the desired relationship throughout multiple relational contexts.

### **Unwanted Pursuit Behaviours and Technology**

Many emerging adults today have used digital technologies since childhood (Torres et al., 2013), currently relying on text messaging and social media, such as Facebook, Instagram, or Snapchat to communicate (Duggan 2015; Torres et al., 2013). It is common for emerging adults to use these means of communication to facilitate and

maintain their intimate relationships. Such technology allows for individuals to maintain contact even over great physical distance, making long-distance relationships more viable than ever before (Torres et al., 2013). Evidence suggests that social media has the potential to enhance relationships, with some studies suggesting that social media increases feelings of closeness and intimate disclosures among partners (Blais et al., 2008; Boyle & O’Sullivan, 2016).

The many ways that people communicate through technologies provide new avenues for UPBs to occur (Muisse et al., 2009). The term “cyberstalking” has been defined as the use of the internet or other technological devices to harass or monitor another person in a threatening way (Reyns et al., 2012). Examples of such behaviours include sending hostile or threatening messages via e-mail, using fake social media profiles to manipulate or spy on an individual, and sharing humiliating or intimate photos of the target on the internet. Cyberstalking often co-occurs with stalking behaviour. The National Crime Victimization Supplemental Victimization Survey found that 21.5% of individuals who had been stalked in person also reported being cyberstalked (Baum et al., 2009). More recently, researchers have begun using the term “cyber unwanted pursuit behaviours” (Dardis & Gidycz, 2017; 2019) to capture these technologically driven unwanted pursuit behaviours more accurately. Like in-person UPBs, many cyber UPBs examined in past research do not meet the legal definition of stalking (Dardis & Gidycz, 2017; 2019; Muise et al., 2014). Research addressing young adults who used post-breakup UPBs typically reported engaging in high rates of both in-person and online UPBs (Foshay & O’Sullivan, 2019; Lee & O’Sullivan, 2014).

Several recent studies have examined the role of Facebook in promoting relational monitoring and tracking behaviours within intact intimate relationships (Marcum et al., 2017; Muise et al., 2009; 2014). Depending on the profile of the target, Facebook provides a medium where personal information, such as location, relationship status, and schedule, is easily available. The normalization of this behaviour, especially in dating relationships, has led to the entry of terms such as *Facebook creeper* into general parlance (Muise et al., 2009; 2014). The extent to which Facebook facilitates partner monitoring and jealousy within relationships was assessed among 160 undergraduates from a Canadian university (Muise et al., 2014). In the first study, participants were presented with a hypothetical Facebook profile and relationship partner and were shown photos of their partner with either an unknown person, friend, or cousin. The time spent on each hypothetical Facebook profile was subsequently assessed. In the second study, couples currently in a relationship were followed for two weeks. Individuals were asked to complete pre-measures of trait jealousy and trust along with a daily 10-minute survey assessing Facebook use. These studies showed that spending greater amounts of time on Facebook monitoring a partner's activities was associated with increased relational jealousy and lower relationship satisfaction. Facebook use also was associated with the amount of time spent monitoring one's partner overall and often was used in conjunction with in-person monitoring (Muise et al., 2014). Research has suggested that online monitoring is perceived as more socially acceptable than in-person monitoring (Utz & Beukeboom, 2011), and accessing someone else's information, even when not on their "Friends List," is not generally

viewed by the public as being an obvious violation of trust (Muise et al., 2009; 2014; Utz & Beukeboom, 2011).

One question arising from research on cyber UPBs is whether these behaviours represent a distinct family of behaviours compared to in-person UPBs (Sheridan & Grant, 2007). Most studies have found at least moderate degrees of overlap between the victim experiences and psychological outcomes both online and offline (Sheridan & Grant, 2007; Spitzberg & Hoobler, 2002). Research looking at UPBs from the perspective of the perpetrator has found little to no difference in the factors associated with each type of pursuit (Dardis & Gidycz, 2017; Lyndon et al., 2011). Thus, there is some evidence cyber and in-person UPBs serve similar functions.

### **Classification of Unwanted Pursuit Behaviours**

A range of approaches has been used in the literature to differentiate categories of post-breakup UPBs. These methods generally have included differentiating post-breakup UPBs based on the content of the behaviour (Cupach & Spitzberg, 2004; Dutton & Winstead, 2006; Spitzberg & Cupach, 2006), assessing online versus offline behaviour (Foshay & O'Sullivan, 2019; Lee & O'Sullivan, 2014), and capturing the severity (Cupach et al., 2011; Dardis & Gidycz, 2017; 2019).

Cupach and Spitzberg (2004) are often credited as pioneering the research on post-breakup UPBs. They categorized post-breakup UPBs into eight types, including hyper-intimacy (extreme and persistent efforts to court ex-partner), interactional contact (trying to interact with the target in their physical environment), mediated contact (trying to interact via technology), invasion (damaging or intruding on targets personal property or space), surveillance (tracking the whereabouts of the target), coercive threats

(veiled warnings towards the safety of target, family or friends, pets, or personal property), harassment and intimidation (attempt to increase compliance and fear in the target), and coercive violence (physical or sexual aggression) (Cupach & Spitzberg, 2004). However, research using this classification model of post-breakup UPBs was unable to predict more severe categories of pursuit because of low self-reported prevalence rates (Cupach et al., 2011). Spitzberg et al. (2014) found that the overall frequency of pursuit was easily predictable, whereas specific behaviours or categories of post-breakup UPBs were not. These findings provide evidence that the excessive parsing of post-breakup UPBs into micro-categories limits their utility.

Subsequent exploration of cyber post-breakup UPBs in recent years prompted the development of simpler taxonomies of post-breakup UPBs based on whether they occurred offline or online (Lee & O'Sullivan, 2014). Dardis and Gidycz (2017; 2019) classified post-breakup UPBs into four categories based on modality and severity. These categories were: minor cyber UPBs (e.g., monitoring ex-partner's social media), severe cyber UPBs (e.g., spreading serious false rumours about an ex-partner online), minor in-person UPBs (e.g., leaving unwanted gifts), and severe in-person UPBs (e.g., physical assault). Parsing UPBs based on their severity has proven useful, whereas there has been inconsistent support for differentiating UPBs into online and offline behaviours (Dardis & Gidycz, 2017; 2019). The severity of post-breakup UPBs is associated with varying motivations (e.g., retaliatory vs. reconciliatory) and gender differences in use (Dardis & Gidycz, 2017; 2019).

In sum, the classification of UPBs has been inconsistent in the literature to date. This inconsistency may account for the large variation in reported prevalence rates,

effects of gender, and predictive models. When considering the predictive utility, usefulness, and discriminatory ability of various classification methods, research supports differentiating UPBs simply based on the severity of the behaviour (minor vs. severe) (Dardis & Gidycz, 2017; 2019).

### **Prevalence of Unwanted Pursuit Behaviours among Emerging Adults**

Studies examining the prevalence of post-breakup UPBs in college populations indicate that the majority of participants used UPBs at least once post-breakup (Dutton & Winstead, 2006; Langhinrichsen-Rohling et al., 2000; Lyndon et al., 2011; Tassy & Winstead, 2014). Somewhat lower rates of post-breakup UPBs (17-88%) were found in community samples of emerging adults (De Smet et al., 2011; 2015; Foshay & O'Sullivan, 2019; Lee & O'Sullivan, 2014). Differences in college versus community prevalence rates could reflect increased proximity and access to dating partners in a college setting. Differences in how post-breakup UPBs are conceptualized and measured in past literature also may help explain the wide variability in prevalence rates. Research that includes extremely benign post-breakup UPBs, such as having any contact with an ex-partner (De Smet et al., 2015) or looking at an ex-partner's photo on Facebook (Lyndon et al., 2011), tend to have higher reported rates of UPBs compared to those that do not include more benign behaviours (Dardis & Gidycz, 2019; Dye & Davis, 2003). Literature addressing cyber-based post-breakup UPBs has found lifetime prevalence rates ranging from 6 to 51% (Chaulk & Jones, 2011; Drebing et al., 2014; Reyns et al., 2012).

Estimates of the frequency and duration of post-breakup UPBs also have been explored in the literature. A study that examined post-breakup UPBs among divorced



adults ( $M_{\text{age}} = 30.57$ ) found that 6% of participants reported engaging in over 20 separate instances of post-breakup UPBs, whereas the average number was 5 to 6 behaviours (De Smet et al., 2015). In contrast, a study assessing 200 emerging adults ( $M_{\text{age}} = 22.3$ ) found a relatively high frequency of UPBs ( $M = 13.75$ ,  $SD = 17.61$ ) following a relationship breakup, with a relatively narrow scope of behaviours ( $M = 2.91$ ,  $SD = 2.09$ ) (Foshay & O'Sullivan, 2019).

Of particular note here is that engaging in less severe post-breakup UPBs appears to be relatively common, especially among college samples, whereas the more severe forms of UPBs are relatively rare (Dutton & Winstead 2011; Langhinrichsen-Rohling et al., 2000; Wigman et al., 2008). Dardis and Gidycz (2017) found that 99% of men and 98% of women participated in at least one minor in-person UPB post-breakup, 34% of men and 48% of women participated in at least one minor cyber UPB, 15% of men and 14% of women participated in at least one severe in-person UPB, and 11% of both men and women participated in at least one severe cyber UPB. Overall, the literature suggests that engaging in minor post-breakup UPBs is normative following the dissolution of emerging adult relationships. Cyber post-breakup UPBs rarely occur in isolation and often coincide with post-breakup in-person UPBs (Dardis & Gidycz, 2017; 2019).

Studies examining incidence rates have revealed the most common post-breakup UPBs used by ex-partners post-relationship breakup in community samples of young adults (De Smet et al., 2015; Lee & O'Sullivan, 2014). The three most common behaviours appear to be monitoring the ex-partner, leaving unwanted messages, and making exaggerated expressions of affection (De Smet et al., 2015), whereas less than

1% of participants reported sending dangerous items, physically hurting, kidnapping, and acting in a threatening manner (De Smet et al., 2015). Research examining both online and offline post-breakup UPBs found that despite online forms of communication increasing in popularity, participants endorsed engaging in online post-breakup UPBs with less frequency compared to offline ones (Lee & O’Sullivan, 2014). These researchers found that the three most common reported strategies overall included calling an ex-partner (42.1%), attempting to monitor an ex-partner’s activities (39.9%), and leaving repeated phone messages (29.5%). Regarding online post-breakup UPBs, the three most commonly reported strategies included sending messages of affection (22.1%), sending extremely intimate messages (20.7%), and sending sexual messages (9.2%) (Lee & O’Sullivan, 2014). Overall, evidence from these community samples of adults suggests that benign online and offline forms of post-breakup UPBs are the most common following a relationship dissolution, as might be expected.

In college samples, a large-scale study ( $n = 1164$ ) found that 30.1% of individuals who used post-breakup UPBs endorsed “going out of your way to run into your ex-partner unexpectedly,” and 34.0% endorsed “showing up to places where you thought your ex-partner might be” (Dardis & Gidycz, 2017). As revealed in community samples, leaving unwanted gifts (34.7%), sending excessive phone messages (29.8%), and asking for information about the ex-partner from others (77%) were commonly reported following a relationship breakup (Dardis & Gidycz, 2017). Again, it appears that certain behaviours, such as asking about an ex-partner and trying to keep contact with them, are normative behaviours in emerging adult relationships.

### **Impact and Responses to Unwanted Pursuit Behaviours**

Historically, research on the impact of post-breakup UPBs has generally been limited to forensic samples of stalkers (McEwan et al., 2007; 2009). This body of stalking literature provides preliminary evidence of the consequences of post-breakup UPBs. Despite mild forms of post-breakup UPBs being more common than severe ones, it is important to note that mild pursuit behaviours significantly predict the use of more severe, persistent behaviours representing an amplification of efforts to establish contact in these cases (McEwan et al., 2007). In a meta-analysis assessing risk factors for stalking violence, having a prior intimate relationship with a past partner was the most significant predictor (Rosenfeld, 2004). Violence within stalking episodes was much more likely when a past intimate partner was involved (70%) compared to a stranger or acquaintance (27%) (McEwan et al., 2007). Furthermore, Purcell and colleagues (2002) found that physical violence in stalking episodes increased with the level of closeness between the individuals. Previous intimate involvement also has been associated with longer durations of pursuit during stalking episodes (McEwan et al., 2009). Unwanted pursuit involving strangers tends to be quite short, with 75.5% of pursuit episodes ending within two weeks (Purcell et al., 2002).

The advent of research assessing cyber post-breakup UPBs has suggested that this form of pursuit has unique consequences for the target. For example, individuals who were a target of an ex-partner's cyber UPBs used more self-protective behaviours, such as avoiding friends, relatives, and social gatherings, taking time off work or school, and quitting their job (Nobles et al., 2014). Dardis et al. (2019) were the first to assess the impact of both cyber and in-person post-breakup UPBs in a sample of 330 young adult women ( $M_{\text{age}} = 19$ ). They found that women who endorsed post-breakup UPBs

victimization scored higher on measures of depression and PTSD. Elevations in depressive and PTSD symptoms are consistent with literature looking at stalking and post-breakup UPBs together (Dutton & Winstead, 2011; Nguyen et al., 2012). Dardis et al. (2019) further assessed the relationship between PTSD and post-breakup UPBs victimization among young adult women. Experiencing negative social reactions to disclosure of post-breakup UPBs (e.g., victim-blaming, disbelief, minimizing the seriousness of behaviour) mediated this relationship (Dardis et al., 2019). This research provides evidence that, like stalking behaviours, post-breakup UPBs have a wide range of negative consequences for the victim.

Being the target of post-breakup UPBs has been associated with the use of more avoidance strategies compared to individuals not targeted by these behaviours (Spitzberg et al., 2001). Avoidance strategies tend to be the most common response to post-breakup UPBs, and this coping style has been associated with poor health outcomes including more anxiety, depression somatic symptoms, and social dysfunction (Chung et al., 2002). Sheridan and Grant (2007) found that both cyber and in-person pursuit was associated with increased fear, panic attacks, and loss of appetite. Another study found that victims who engaged in avoidance coping behaviours, such as withdrawal, substance use, and passivity were more likely to experience PTSD symptoms (Kamphuis et al., 2003).

Dutton and Winstead (2011) were the first to assess comprehensively how targets of post-breakup UPBs respond to being victimized by an ex-partner. The aims of this study included developing a classification system for common responses to post-breakup UPBs, determining the frequency and effectiveness of these strategies, and

exploring what ultimately stopped the pursuit. Participants included 296 undergraduate and graduate students ( $M_{age} = 20.83$ ). Responses to post-breakup UPBs were assessed from both the perspective of the victim and that of the pursuer. Four responses to post-breakup UPBs were found. Assertion/Aggression referred to assertive responses, such as “made threats” or “took legal action”; Approach referred to giving in to the pursuer in some way, such as “making emotional appeals to the pursuer,” “reconciling the relationship,” and “verbal confrontation”; Avoidance or Minimization included strategies such as “ignored the pursuer,” “minimized the situation,” and “limited interaction with others”; and the final factor was Support Seeking which included seeking emotional support or advice from other individuals (Dutton & Winstead, 2011).

In terms of frequency of responses, “acted nicely” was the most common response endorsed by both targets and pursuers (Dutton & Winstead, 2011), perhaps reflecting the effort on both sides to maintain civility post-dissolution. “Took legal action” was found to be the least endorsed response by both pursuer and targets. Targets reported using significantly more direct confrontation and avoidance than was reported by pursuers, suggesting that many responses to post-breakup UPBs occurred outside the awareness of the pursuer. Overall, responses that did not directly deal with the pursuit, such as Avoidance/Minimization and Support Seeking, were reported at a much higher frequency than direct responses, such as Assertion/Aggression and Approach (Dutton & Winstead, 2011).

Regarding the effectiveness of responses, taking legal action, making a geographical change, and verbal confrontation were reported as the most effective responses to stopping the pursuit by both the target and the pursuer. Responses such as

seeking emotional support and avoiding or minimizing the problem were rated as the least effective in stopping the pursuit (Dutton & Winstead, 2011). Indeed, 58% of women targets rated their chosen response as completely ineffective in stopping the pursuit. Unfortunately, strategies that are most likely to stop the pursuit were rarely used, have a high degree of risk (e.g., confronting the pursuer, changing jobs), and require significant time, effort, and cost (e.g., moving, legal action) (Dutton & Winstead, 2011).

A recent study assessed the effectiveness of coping strategies among undergraduate women ( $n = 181$ ) who reported two or more instances of being targeted by UPBs by a man (Richards & Dardis, 2022). A multivariate model was utilized in order to assess UPB victimization over two time points eight weeks apart. In contrast to previous literature which has identified certain strategies as being more effective in stopping pursuit (e.g., Cupach & Spitzberg, 2004; Podaná & Imriskov, 2016), this study found that commonly lauded strategies (e.g., changing social media accounts, keeping a log of contact from the pursuer) were insignificantly related to reducing UPB victimization (Richards & Dardis, 2022). Subsequently, more research is needed to clarify ways in which UPB use can be reduced.

### **Demographic Features of Unwanted Pursuit Behaviours**

Very few gender differences have been revealed regarding the overall frequency of post-breakup UPBs in community samples (Brownhalls et al., 2019; De Smet et al., 2011; 2015; Foshay & O'Sullivan, 2019; Lee & O'Sullivan, 2014; Shorey et al., 2015) or college samples (Alexy et al., 2005; Dutton & Winstead, 2011). Indeed, this body of research shows similar profiles between men and women in both choice and frequency

of behaviours — with few exceptions (De Smet et al., 2015). One such exception is that women appear to use minor cyber post-breakup UPBs more often than men (Dardis & Gidycz, 2017). Men appear to use more unwanted approach behaviours, such as frequent requests for meetings with their ex-partner or leaving unwanted gifts (Wisternoff, 2008). Even extreme forms of UPBs show little to no gender difference in prevalence rates (Dardis & Gidycz, 2019; De Smet et al., 2015; Tassy & Winstead, 2014). It is important to note that to our knowledge, UPBs have not been explored among non-binary individuals.

The most notable gender difference in post-breakup UPBs seems to involve the appraisal of the behaviour by targets. Women tend to report feeling more threatened by UPBs when compared to their male counterparts (De Smet et al., 2015; Spitzberg et al., 2010). One study found that among targets of unwanted pursuit, women were four times more likely than men to perceive the behaviours as threatening (Campbell, 2003). It has been theorized that the traditional sexual script may account for this gender difference in the appraisal of UPBs, with men traditionally perceived as the pursuers of relationships and women as the gatekeepers limiting men's access and controlling the pace (Metts & Spitzberg, 1996). Another view suggests that violence against men that is perpetrated by women is often considered to be benign, minimized, or even acceptable (Fontes, 2007; Kernsmith, 2005). These beliefs are likely related to notions that men are, on average, stronger than women and more capable of defending themselves against violence (Fontes, 2007). Women may feel more intimidated by this strength disparity even outside of stalking scenarios and dating relationships. Other research demonstrates that men and women do not differ in terms of fear, discomfort, anger, or annoyance

regarding post-breakup UPBs (Sinclair & Freeze, 2005). Despite women typically reporting higher levels of fear in response to being a target of post-breakup UPBs, a recent study found no gender difference in the perception of harm resulting from one's post-breakup UPBs. Men and women appear to similarly downplay or dismiss the level of harm and threatening nature of their behaviour (Foshay & O'Sullivan, 2019).

Few studies have assessed sexual minority groups and post-breakup UPBs (De Smet et al., 2015; Spitzberg et al., 2010). Earlier studies tended to group individuals based on biological sex (e.g., Spitzberg et al., 2010), while more recent literature (e.g., De Smet et al., 2015) has focused on gender differences. A meta-analysis examining sex differences in the use of post-breakup UPBs found that same-sex partners experience higher rates of post-breakup UPBs compared to mixed-sex partners (Spitzberg et al., 2010). However, De Smet et al. (2015) found that same- and mixed-gendered couples participated in similar duration and frequency of post-breakup UPBs. Same-gendered partners participated in more approach (e.g., unexpectedly visiting ex-partner, frequent messages of affection) and threatening behaviours (e.g., leaving threatening objects, sending threatening messages) (De Smet et al., 2015; Strand & McEwan, 2011).

Despite more severe post-breakup UPBs occurring among same-sex and/or gendered partners, these behaviours were deemed less threatening by the pursuer compared to mixed-gender partnerships post-breakup UPBs (De Smet et al., 2015). This discrepancy may be related to a greater degree of perceived equality in relationships between men and women (Kurdek, 2004), making the post-breakup UPBs appear less threatening. Beliefs about men being stronger than women and more capable of defending themselves against violence do not apply in these relationships (Fontes,



2007). Surprisingly, although borderline traits and anxious attachment strongly predicted post-breakup UPBs following dissolution in mixed-gender relationships, this association was not found for same-gendered relationships (De Smet et al., 2015). The evidence to date suggests that although same and mixed-sex and/or gendered couples appear to engage in similar frequencies of post-breakup UPBs, the mechanisms underlying these behaviours, choice of strategy, and perception of harm differ (De Smet et al., 2015; Spitzberg et al., 2010; Strand & McEwan, 2011).

There is a lack of research assessing the role that age plays in the frequency of post-breakup UPBs (Johnson & Thompson, 2016). Being older appears to be related to a greater reluctance to “let go” of the relationship (Rusbult & Van Lange, 2003), and thus longer duration of post-breakup UPB use. One study examined the role of education and marital status in predicting the persistence of post-breakup UPBs and found that individuals with more education engaged in the pursuit for longer periods than those with less education (McEwan et al., 2009). No clear relationships were revealed between marital status and the use of post-breakup UPBs. The limited research evidence to date suggests that demographic factors beyond gender do not appear to be critical in predicting why post-breakup UPBs occur and persist (Johnson & Thompson, 2016). Despite limited evidence linking age and post-breakup UPBs, the developmental stage (e.g., childhood, adolescence, and adulthood) has been highlighted as an especially important factor underlying post-breakup UPBs (De Smet et al., 2011).

### **Emerging Adulthood**

Emerging adulthood represents a stage of development, typically between ages 18 and 29, that bridges the gap between adolescence and adulthood (Arnett, 2000; 2015;

Shnyders & Lane, 2018; Tanner et al., 2009). Compared to relationships in adolescence, relationships in emerging adulthood often become more committed and intimate (Arnett, 2000; 2015; Collins, 2003). This period of life is strongly associated with identity formation, and establishing an intimate partnership is typically a key part of that identity (Arnett, 2000; 2015; Collins, 2003). However, other characteristics of emerging adulthood, such as instability in living arrangements, finances, career, increased self-focus, feeling in-between, and high idealism, often create turbulence in these relationships. High optimism and limited life experience may also lead individuals to seek other intimate partners outside of their current intimate relationships, reflected in the high degree of concurrent partnerships and relational turnover in this age group (Arnett, 2000; Tanner et al., 2009).

Regardless of the reason, relationship breakups often feel devastating at all developmental stages (Amato, 2000). Serious mental health issues are common after breakups in emerging adulthood, particularly anxiety and depression (Davis et al., 2003; Monroe et al., 1999). A relationship breakup includes both general psychological distress (anxiety, depression), along with separation-specific reactions, such as feelings of isolation and loneliness (De Smet et al., 2011). Mental health concerns are compounded by the potential loss or reduction of social networks that often accompany relationship dissolution (De Smet et al., 2011). Because of frequent breakups and the importance that intimate relationships have for emerging adults, the characterization of UPBs both within intact relationships and following relationship breakups in emerging adulthood is particularly important.

### **Factors and Models of Unwanted Pursuit Behaviours**

A multitude of factors, theories, and models have been proposed to explain the use of post-breakup UPBs (e.g., Cupach & Spitzberg, 2000; Davis et al., 2012; Dardis & Gidycz, 2019). In particular, strong support has emerged for the utility of relational goal pursuit theory (RGPT; Cupach & Spitzberg, 2000) in explaining post-breakup UPBs (Cupach et al., 2011, Dardis & Gidycz, 2017; Foshay & O’Sullivan, 2019; Spitzberg et al., 2014). RGPT incorporates five factors that have been independently associated with increased post-breakup UPBs, including goal-linking, rumination, negative affect, self-efficacy, and rationalization (Cupach et al., 2011, Dardis & Gidycz, 2017; Foshay & O’Sullivan, 2019; Spitzberg et al., 2014). Other theoretical models used to explore post-breakup UPBs, such as coercive control theory (Dutton & Goodman, 2005) and self-regulation theories (Sinclair et al., 2011), appear to apply to more severe, violent behaviours with retaliatory motivations (Dardis & Gidycz, 2019) than to the wider spectrum of pursuit behaviours encompassing post-breakup UPBs. Thus, RGPT is the conceptual framework adopted for the current research and is described in detail below.

This literature also has revealed strong and consistent individual predictors of post-breakup UPBs, including relational factors, such as time since the breakup (Cupach et al., 2011; Spitzberg et al., 2014) and perceived q

uality of alternatives (Tassy & Winstead, 2014; Razaeei, 2021). Borderline personality traits (Dardis & Gidycz, 2017; De Smet et al., 2015; Reilly & Hines, 2017) and anxious attachment (Dardis & Gidycz, 2019; Dutton & Winstead, 2006; Tassy & Winstead, 2014) also have been implicated strongly in post-breakup UPBs. The current study will examine UPBs in two new relationship contexts: (1) during temporary breakups, and (2) during intact relationships among couples who have previously

experienced at least one breakup. The literature to date strongly supports the need for a comprehensive, integrated theoretical model of UPBs that incorporates various contexts of the behaviour and the factors with the most explanatory power (Davis et al., 2012; Dardis & Gidycz, 2019).

### ***UPB Use, Mental Health, and Relationship Satisfaction***

A focus of this study will be to address how UPBs are related to symptoms of depression, anxiety, and relationship satisfaction. Research has found that young female targets of UPBs score higher on measures of depression and trauma when compared to individuals who have not experienced this victimization (Dardis et al., 2019).

Furthermore, individuals who are targets of cyber UPBs engage in more avoidance behaviours such as avoiding friends, family, social gatherings, work, and school (Nobles et al., 2014). However, it is unclear whether the same relationship between UPB use and mental health exists in the context of temporary breakups and intact relationships. Given the widespread use of UPBs in emerging adulthood (e.g., Cupach et al., 2011), it is important to determine the cost to individual mental health.

Furthermore, there has been limited research assessing whether mental health issues exist among perpetrators of UPBs. A significant body of research exists looking at coping strategies of UPB targets (e.g., Dutton & Winstead, 2011; Nobles et al., 2014; Richards & Dardis, 2022), but this research does not include the mental health of UPB perpetrators. RGPT theory (Cupach & Spitzberg, 2004), suggested that UPB use is associated with significant levels of negative emotion and an inability to ‘move-on’

from a relationship, and thus it is expected individuals who use UPBs will experience poor mental health outcomes.

Temporary breakups are relatively common among emerging adults, with estimates suggesting that 40% of current emerging adult relationships have previously experienced a breakup (Halpern-Meekin et al., 2013b). This research has found greater amounts of physical and emotional abuse among couples who have previously experienced a breakup, along with fewer maintenance behaviours (Halpern-Meekin et al., 2013a). However, this research also determined that having a history of temporary breakups is associated with positive qualities such as more frequent intimate self-disclosure (Halpern-Meekin et al., 2013a). However, it is unclear how UPB use is related to relationship satisfaction in these relationships, and thus will be explored in the current research.

### ***Relational Factors and Unwanted Pursuit Behaviours***

Factors directly associated with the breakup, such as time since the breakup (Cupach et al., 2011), who initiated the breakup (Belu et al., 2016; De Smet et al., 2011; 2015), perceived quality of alternatives (Razaei, 2021; Tassy & Winstead, 2014), and the amount of breakup distress (De Smet et al., 2015) have been examined in research on post-breakup UPBs. Time since the breakup, essentially a proxy measure for the opportunity to use UPBs, understandably influences the amount of post-breakup UPBs used, as for most partners the frequency and intensity of these behaviours decrease over time (Cupach et al., 2011). However, other research on post-breakup UPBs has not included time since breakup as a factor (e.g., Dardis & Gidycz, 2019; Tassy & Winstead, 2014).

Initiator status, that is who initiated the breakup (self, ex-partner, or mutual), has consistently been assessed in the literature on post-breakup UPBs (Cupach et al., 2011; Dardis & Gidycz, 2017; Davis et al., 2012; De Smet et al., 2011; 2015; Dye & Davis 2003; Spitzberg et al., 2014; Tassy & Winstead, 2014). Individuals who were caught off guard by a breakup (i.e., the rejected partners) were more likely to report distress following the dissolution (Amato & Previti, 2003; Belu et al., 2016; De Smet et al., 2011). Most have found that individuals who were the recipient of the breakup were more likely to engage in post-breakup UPBs (Dardis & Gidycz, 2017; De Smet et al., 2011; Dye & Davis, 2003). These researchers have suggested that being broken up with is related to the rejected individual experiencing less control over the ending of the relationship and a greater desire for reconciliation (Dardis & Gidycz, 2017; De Smet et al., 2011). This lack of control reflects their involuntary involvement in a breakup and has been linked to the psychological distress of being rejected while still wanting to be in the relationship (Langhinrichsen-Rohling et al., 2000). Feeling a lack of control over a relationship breakup was associated with a higher frequency of post-breakup UPBs when compared to those who felt in control of their breakup (Belu et al., 2016; De Smet et al., 2011; 2015). However, some research has suggested that breakup initiator status is unrelated to post-breakup UPBs (Cupach et al., 2011; Spitzberg et al., 2014; Tassy & Winstead, 2014). Still, other research has revealed that being the initiator of the breakup is related to the use of more severe post-breakup UPBs (Dardis & Gidycz, 2019). Thus, the relationship between breakup initiator status and post-breakup UPBs is unclear and inconsistent.

Research by Tassy and Winstead (2014) assessed variables associated with the degree of investment in the relationship and post-breakup UPBs. Having a lower quality of perceived alternatives was found to be related to more frequent post-breakup UPBs among North American undergraduates (Tassy & Winstead, 2014). These findings suggest that individuals will spend more effort trying to reconcile the relationship (UPBs) when they feel they cannot get their needs met outside of their current relationship. This association is consistent with research by Dutton and Winstead (2011) who found that 35% of post-breakup UPBs stopped after the pursuer found a new intimate partner. However, a recent study assessing 104 young adults (ages 20 to 30) from India found that the investment size, or the amount of perceived investment an individual has given to a relationship, was a significant predictor of UPB use while the perceived quality of alternatives and relationship satisfaction were not (Razaei, 2021). The perceived quality of alternatives is an understudied area that may or not be important to the use of post-breakup UPBs (Dutton & Winstead, 2011; Tassy & Winstead, 2014).

One unexplored relationship variable in the context of post-breakup UPBs is the living situation of the couple. The experience of the breakup, practical consequences of the breakup, and intensity of the breakup may differ depending on whether the partners are cohabitating or living separately. To our knowledge, there is no existing research assessing cohabitation and UPBs. Subsequently, the association between cohabitation and post-breakup UPBs will be examined in the current study. In summary, our proposed model of UPB use will include relational factors of breakup distress and the

perceived quality of alternatives. Cohabitation status will be assessed in relation to UPB use in the study but will not be included in the final model.

### ***Personality Traits and Unwanted Pursuit Behaviours***

Several studies have examined personality traits in association with post-breakup UPBs (De Smet et al., 2015; Reilly & Hines, 2017). Borderline personality traits (BPTs) in particular are at the forefront of research on this topic. These traits are described as reflecting difficulties regulating emotion, behaviour, and cognition (Lazarus et al., 2019). Many characteristics of BPTs are interpersonal, such as experiencing turbulent relationships and frantic efforts to avoid abandonment. Other characteristics reflect reactions to interpersonal stressors, such as mood lability and instability, paranoia, emptiness, and suicidal/impulsive behaviours (Lazarus et al., 2019).

The interpersonal nature of BPTs has led researchers to examine the construct within the context of intimate relationships, and more specifically how it leads to relational dysfunction (Navarro-Gomez et al., 2017). High BPTs are associated with heightened perceptions of rejection (Lazarus et al., 2019), increased likelihood of interpreting an ambiguous social cue as rejection (Renneberg et al., 2012), increased hostility in the face of potential rejection, greater overall levels of negative affect within intimate relationships (Lazarus et al., 2018), and higher levels of mistrust of one's relationship partner relative to those with lower BPTs (Miano et al., 2017). During periods of relational stress, individuals with higher BPTs view the conflict as more threatening than individuals with lower BPTs. This response leads to increased hostility during interpersonal problem-solving and decreased feelings of closeness in the intimate relationship (Miano et al., 2017). Partners of individuals with higher BPTs have reported



shorter relationship duration, as well as more violence, distress, and conflict compared to a control group (Bouchard & Sanbourin, 2009).

Borderline personality traits are believed to play a role in post-breakup UPBs. Research has indicated that individuals who exhibit strong borderline traits are more likely to participate in post-breakup UPBs compared to individuals with lower BPTs (De Smet et al., 2015; Reilly & Hines, 2017). A meta-analysis of stalking behaviour found BPD to be a common trait amongst samples engaging in stalking behaviour (Spitzberg et al., 2014). BPTs are thought to predispose individuals to factors such as strong negative emotions regarding the breakup (Tassy & Winstead, 2014), poor emotion regulation (Cupach & Spitzberg, 2004), and a high degree of importance placed on the lost relationship (Lazarus et al., 2019).

Literature assessing UPB use has found strong evidence that difficulties in emotion regulation, a hallmark of BPTs, may be more relevant for UPB use as compared to the diagnostic category itself of borderline personality disorder (Davis et al., 2012, Dardis & Gidycz, 2019). Self-regulation theories of UPB use (Davis et al., 2012) suggest that the ability to regulate impulsive behaviours during periods of intense stress or negativity is essential to avoid engaging in these behaviours. In addition, emotion regulation is theorized to be strongly related to behavioural jealousy (Cupach & Spitzberg, 2004), which is operationalized as intact relational UPBs in the current study.

A second personality trait that is commonly assessed in the UPB literature is anxious attachment. The attachment style of individuals engaging in post-breakup UPBs, and stalking behaviour has been assessed in multiple studies (Dardis & Gidycz, 2019; Dutton & Winstead, 2006; Tassy & Winstead, 2014). These studies consistently

revealed that individuals with an anxious attachment style are more likely to participate in post-breakup UPBs. Such individuals are highly attentive to possible threats to their relationships (Muisse et al., 2014). Increased reassurance-seeking may lead the individual to increase UPB tactics, such as monitoring a partner's activities online (Muisse et al., 2014). The experience of rejection associated with a relationship breakup also tends to be experienced more intensely among individuals who are anxiously attached (Dardis & Gidycz, 2019; De Smet et al., 2015; Muise et al., 2014). Anxious attachment has been correlated with trait levels of jealousy in relationships (Dutton & Winstead, 2006). Emotion regulation difficulties also are common in anxiously attached individuals, along with a greater tendency to ruminate over the ended relationship (Barbara & Dion, 2000).

Anxious attachment style has been theorized to help explain unique elements of BPTs, such as persistent disturbance in identity and relationships (Scott et al., 2009). A significant number of studies have found strong links between anxious attachment styles and BPTs in clinical and non-clinical samples (Brennan & Shaver, 1998; Nickell et al., 2002). This research has suggested that both BPTs and anxious attachment are important, independent personality trait predictors of post-breakup UPBs.

### ***Relational Goal Pursuit Theory***

Relational goal pursuit theory (RGPT; Cupach & Spitzberg, 2004) is a model developed specifically to help explain UPBs among former intimate partners. Several studies have tested the utility of this model in explaining post-breakup UPBs (Brownhalls et al., 2019; Cupach et al., 2011; Dardis & Gidycz, 2019; Foshay & O'Sullivan, 2019; Spitzberg et al., 2014). It comprises five factors: goal-linking,

rumination, negative affect, self-efficacy, and rationalization. The structure of RGPT is based on the prospect that individuals perceive specific intimate relationships as goals or “desired end-states” (Cupach & Spitzberg, 2004). The magnitude of effort expended towards achieving a goal is highly associated with the importance given to the goal by the individual. When the effort needed to reach a goal is greater than the value placed on it, the goal is ultimately abandoned (Cupach & Spitzberg, 2004).

**Goal-Linking.** RGPT assumes that an individual’s goals can be organized hierarchically from lower-order to higher-order in value to one’s life (Cupach & Spitzberg, 2004). Less important goals (lower-order) are more easily abandoned, whereas more important goals (higher-order) bring about greater resistance to being abandoned. The phenomenon of goal-linking occurs when it is believed that a lower-order goal is necessary for reaching a higher-order goal (Cupach & Spitzberg, 2004). Individuals who obsessively pursue ex-partners have linked a higher-order goal, such as happiness, self-worth, and/or purpose, with the lower-order goal of reconciling the relationship (Cupach & Spitzberg, 2004). Subsequently, a significant amount of energy is expended towards reconciliation. Not surprisingly, these situations often lead to persistent, obsessive, and often intrusive UPBs (Cupach et al., 2011; Cupach & Spitzberg, 2004). In terms of support, modest associations have been found between goal-linking and post-breakup UPBs (Brownhalls et al., 2019; Cupach et al., 2011; Foshay & O’Sullivan, 2019).

**Rumination.** Rumination is a term that historically has been used to label thoughts that tend to recur in a repetitive persistent manner (Martin & Tesser, 1996). Rumination often occurs in response to negative moods such as jealousy, sadness, or

worry (Papageorgiou & Wells, 2015). Ruminative thinking is a core component of depression and involves consistently focusing on depressive symptoms and the associated causes, meanings, and consequences of them (Papageorgiou & Wells, 2015). Conway et al. (2000) suggest that rumination includes repetitive thoughts regarding an individual's current distress and the circumstances or surrounding potential causes of the sadness. Rumination is often confused with the concept of worry (Papageorgiou & Wells, 2015). Worry refers to a chain of thoughts or images that are uncontrollable and relevant to unwanted events that could occur. These thoughts or images are conceptualized as attempts to problem-solve an issue with an uncertain, but likely negative, outcome (Papageorgiou & Wells, 2015). Close to 50% of worrisome thoughts are related to the problem-solving process (Lovibond, 2006). The core difference between rumination and worry is the temporal order in which they occur. Worry tends to occur before an anticipated threat, whereas rumination occurs following an undesirable outcome and involves counterfactual thinking. Ruminative thoughts are persistent, further distinguishing the concept from worry, which may only occur one time before the anticipated threat (Papageorgiou & Wells, 2015).

Rumination plays a critical role in RGPT (Brownhalls et al., 2019; Cupach et al., 2011; Dardis & Gidycz, 2019; De Smet et al., 2015; Foshay & O'Sullivan, 2019; Spitzberg et al., 2014). Rumination in RGPT can be conceptualized as having two subfactors that affect subsequent use of post-breakup UPBs: rumination persistence, or the inability to stop thinking about the ended relationship, and rumination affect, or the strong emotions associated with the possibility or reconciliation with an ex-partner (Cupach & Spitzberg, 2004). In the RGPT framework, rumination occurs when one fails

to achieve a lower-order relational goal that is linked with a higher-order goal (Cupach & Spitzberg, 2004). Reconciling this relationship is highly valued by the individual, which leads to overwhelming and intrusive thoughts about the relationship. The inaccurate perception that the lost relationship is required for happiness or purpose results in highly negative predictions regarding the impact of failing to achieve a higher-order goal (Cupach & Spitzberg, 2004). Rumination has consistently been one of the strongest predictors of post-breakup UPBs within the RGPT framework, with significant associations found in several studies (Brownhalls et al., 2019; Dardis & Gidycz, 2019; De Smet et al., 2015; Foshay & O'Sullivan, 2019; Spitzberg et al., 2014).

**Negative Affect.** A consequence of repeated rumination about one's failure to reconcile a relationship is negative affect. Negative affect, or emotional flooding, refers to both the immediate negative emotions associated with the breakup, and residual distress resulting from continued failure to reconcile a relationship (Spitzberg et al., 2014). Intense frustration occurs when one is unable to obtain a higher-order goal, resulting in negative emotions such as jealous, shame, and anger (Cupach & Spitzberg, 2004). The negative affect, in turn, leads to more rumination in an iterative manner (Cupach & Spitzberg, 2004). Eventually, high levels of rumination and negative affect overwhelm an individual and result in post-breakup UPBs (Cupach & Spitzberg, 2004). Research has been mixed concerning the importance of negative affect in post-breakup UPBs and appears to be related to the measure used (Brownhalls et al., 2019; Cupach et al., 2011; Foshay & O'Sullivan, 2019). Cupach et al. (2011) developed a singular measure of emotional flooding, which despite significant correlations with UPBs, was not significant in regression models (Brownhalls et al., 2019; Cupach et al., 2011).

Cupach et al. (2011) found that this was related to issues of multicollinearity with the rumination factor. When negative affect was operationalized using a validated measure of breakup distress (Field et al., 2009), strong correlations as well as regression coefficients were found, and multicollinearity was not a concern (Foshay & O'Sullivan, 2019). However, this measure may not capture the same degree of 'residual distress' that was described by Spitzberg et al., (2014). However, the measure of breakup distress used in this study has items that capture both the immediate reaction to the breakup (e.g., "I feel stunned and dazed over what happened", as well as more residual negative affect (e.g., "Memories of the person upset me", "I have been experiencing pain since the breakup.") In general, negative emotional states associated with the breakup, such as anxiety, depression, and feeling of loneliness, have been found to differentiate pursuers from non-pursuers (De Smet et al., 2011).

**Self-Efficacy.** Self-efficacy is the belief that one can achieve the desired outcome using one's abilities (Amtmann et al., 2012). Future behaviour is predicted by an individual's perception of their current capability to reach a particular goal (Amtmann et al., 2012). Self-efficacy is critical to post-breakup UPBs as the individual must believe that a goal is obtainable to continue pursuit (Cupach & Spitzberg, 2004). To persistently pursue an ex-partner in the face of failure, an individual must strongly believe that reconciling with their ex-partner is possible. In this light, individuals are likely to misinterpret rejection or ambivalence as encouragement to continue attempts to reconcile the relationship. Individuals who use UPBs often disregard the welfare of their target, as the pursuer may deny or at least not fully realize that their behaviour is inappropriate, unwanted, and/or highly distressing (Cupach et al., 2000). The

considerable desire to reconcile a lost relationship results in the individual becoming blind as to how their behaviour is perceived and experienced by others. Feelings of high self-efficacy are not always grounded in reality, as the distress and cognitive distortions associated with a relational breakup may limit insight into how one's behaviour is perceived. Research has indicated that self-efficacy has a modest relationship with post-breakup UPBs (Brownhalls et al., 2019; Cupach et al., 2011; Foshay & O'Sullivan, 2019; Spitzberg et al., 2014).

**Rationalization.** Rationalization is a cognitive distortion used to justify or explain an action or attitude using inappropriate or inconsistent logic (Guglielmo, 2015). Cognitive distortions are further defined as thoughts that result from personal bias or faulty information processing (Clark et al., 1999). Cognitive distortions are an important concept in cognitive behavioural therapy and are often targeted to produce positive behavioural change (Beck, 1996). Unlike the previous four factors associated with RGPT (goal-linking, rumination, negative affect, and self-efficacy), rationalization has only been examined once to our knowledge in the context of post-breakup UPBs (Brownhalls et al., 2019). Other studies assessing RGPT and post-breakup UPBs did not provide justifications for omitting this factor (Cupach et al., 2011; Dardis & Gidycz, 2019; Foshay & O'Sullivan, 2019; Spitzberg et al., 2014).

Within the RGPT model, rationalization acts to reduce the negative affect associated with the breakup (Cupach & Spitzberg, 2004). Individuals adopt a cognitive style that allows them to justify and downplay negative aspects of their behaviour and distress associated with the breakup. Using rationalization, individuals can relieve discomfort associated with repeated rejection. They also are more likely to interpret

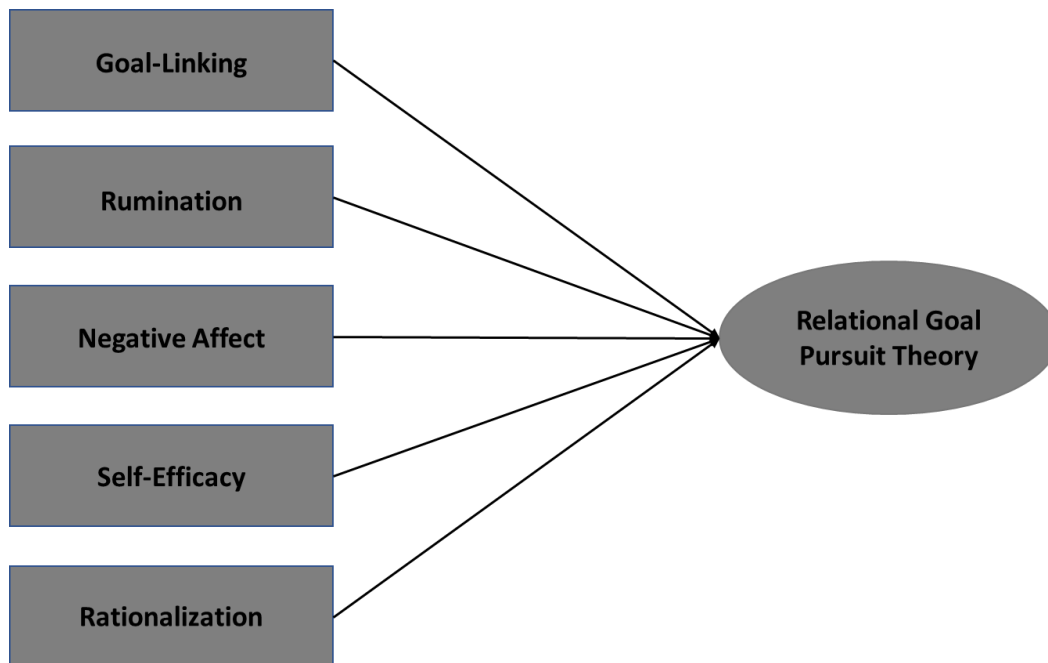
pursuer responses as positive or flirtatious, which further encourages pursuit (Brownhalls et al., 2019). Within the context of RGPT, Spitzberg et al. (2014) theorized that rationalization is composed of two parts: permissiveness, which relates to viewing one's behaviour as acceptable, and distortions, which relate to misinterpreting target responses. A recent online study assessed rationalization within RGPT in 379 heterosexual former intimate partners ( $M_{\text{age}} = 34.4$ ) (Brownhalls et al., 2019). Self-efficacy, rumination, negative affect, and the distortion subscale of rationalization were strongly related to post-breakup UPBs, whereas permissiveness and goal-linking was not. Furthermore, the distortion subscale of rationalization was the strongest predictor of post-breakup UPBs, increasing the variance of post-breakup UPBs accounted for by RGPT theory from 15% to 29%. Without a solid justification for not including it within the RGPT model, rationalization should be assessed as part of RGPT in future research on post-breakup UPBs, as there is strong evidence attesting to its importance to understand UPB use. There also is a dearth of measures assessing subscales of distortion and permissiveness (Brownhalls et al., 2019).

**Summary of RGPT.** In sum, RGPT specifies interactions between 1) goal-linking, 2) rumination, 3) negative affect, 4) self-efficacy and 5) rationalization. It states that obsessively pursuing a past relationship is a result of linking a lower-order relational goal (e.g., reuniting) with a higher-order goal (e.g., happiness). An inordinate amount of importance is placed on this relationship, and goal abandonment is unlikely to occur. The perceived consequences of not reconciling the relationship results in high levels of rumination and negative affect. These intense emotional states evoke strong behavioural responses in the form of post-breakup UPBs. Self-efficacy reflects the



individual's belief that the goal is obtainable to continue the pursuit. A cognitive style characterized by distortion of the target's behaviour and permissiveness towards one's post-breakup UPBs reduces negative affect associated with repeated failure to reconcile a relationship and serves to perpetuate the behaviour in the face of judgments that the behaviour is irrational or inappropriate (Cupach & Spitzberg, 2004).

**Figure 1. Model of Relational Goal Pursuit Theory (RGPT).**



**Evidence for RGPT.** The association between RGPT and post-breakup UPBs has been established in the literature (Cupach et al., 2011; Spitzberg et al., 2014). Cupach et al. (2011) examined post-breakup UPBs in 433 undergraduate students ( $M_{\text{age}} = 20.4$ ). This study revealed that rumination and self-efficacy were the strongest

predictor of post-breakup UPBs, whereas goal-linking was modestly related to UPB use. RGPT constructs better explained mild post-breakup UPBs compared to more severe behaviours (Cupach et al., 2011). Spitzberg et al. (2014) assessed RGPT and post-breakup UPBs within 334 undergraduate students ( $M_{\text{age}} = 20.8$ ) from two Southwestern American universities. This study included a new measure of negative affect that was thought to better capture the behaviour associated with post-breakup UPBs (Spitzberg et al., 2014). The study revealed that self-efficacy and rumination persistence were the only variables that discriminated between pursuers and non-pursuers (Spitzberg et al., 2014). Consistent with other studies assessing post-breakup UPBs in emerging adult populations (Cupach et al., 2011; Foshay & O'Sullivan, 2014), severe post-breakup UPBs were infrequently reported and poorly predicted using the RGPT model (Spitzberg et al., 2014).

### **Two Pathways of Post-Breakup UPBs**

Research has indicated that there may be separate factors and motivations underlying minor and severe UPBs following a relationship breakup (Dardis & Gidycz, 2019; Davis et al., 2012; Spitzberg & Veksler, 2007). As such, there may be systematic differences between forensic populations of stalkers and individuals who engage in less extreme post-breakup UPBs. Dardis and Gidycz (2019) furthered this hypothesis by proposing that retaliatory motives are associated with severe post-breakup UPBs (e.g., physical or sexual violence, threats), and reconciliation motives are associated with less severe post-breakup UPBs (e.g., monitoring social media, leaving unwanted gifts). Separating post-breakup UPBs that are retaliatory-motivated from those that are

reconciliatory-motivated seems critical for the development of a stronger, more accurate model of post-breakup UPBs, but to date, research has confounded these two pathways.

The retaliatory pathway encompasses the traditional view of stalking behaviours as being severe, violent, and often involving law enforcement (Dardis & Gidycz, 2019). These individuals may spread humiliating or professionally damaging information about an ex-partner, may threaten the family or friends of the target, and frequently have a history of engaging in intimate partner violence in previous relationships (Davis et al., 2012). Severe stalking behaviours normally found in forensic samples are associated with factors such as poor impulse control, high trait possessiveness, and the use of intimate partner violence in past relationships (Logan & Walker, 2009). Individuals who use severe pursuit behaviours are thought to be motivated by the desire to seek vengeance against the ex-partner for leaving the relationship. The individual may wish to regain the lost relationship, but they wish to do so through coercive control and intimidation as opposed to more positive relationship-seeking behaviours (e.g., asking the target out on a date) (Dardis & Gidycz, 2017; 2019). Overall, these behaviours are less common and likely different explanatory mechanisms are at play compared to those prompting reconciliatory-motivated UPBs.

The reconciliation pathway will be the focus of the current research (Dardis & Gidycz, 2019). This pathway is characterized by an intense desire to re-establish a lost relationship; UPBs reflect this desire to re-establish the relationship (Dardis & Gidycz, 2019). Relevant factors associated with these less extreme pursuit behaviours (e.g., tracking, monitoring, and unwanted gifts) include intact relational UPBs, emotion regulation, anxious attachment, low perceived quality of alternatives, and RGPT

variables (goal-linking, rumination, negative affect, self-efficacy, and rationalization) as reviewed above (Dardis & Gidycz, 2019). The individual using reconciliatory-motivated post-breakup UPBs may feel that they have few options outside of the target relationship (Tassy & Winstead, 2014). Borderline traits, such as poor emotion regulation, predict stronger responses to negative emotion, greater impulsivity, and mood instability (Reilly & Hines, 2017), whereas anxious attachment results in the individual being extremely sensitive to abandonment or loss of the relationship (De Smet et al., 2015). UPBs used within the relationship are thought to continue following the relationship breakup (Logan & Walker, 2009; Tassy & Winstead, 2014).

In the reconciliatory model of post-breakup UPBs, the relationship between UPB use in temporary breakups and intact relational UPBs, low perceived quality of alternatives, poor emotion regulation, and anxious attachment are predicted to be mediated by variables associated with RGPT (goal-linking, rumination, negative affect, self-efficacy, and rationalization). Individuals with reconciliatory motivations may be less likely to participate in severe post-breakup UPBs as they may realize resorting to these extremes will lessen their chances of reuniting with an ex-partner. Rationalization of one's post-breakup UPBs would likely be more difficult when engaging in severe post-breakup UPBs, such as the use of physical violence, compared to less severe behaviours, such as internet monitoring. Many unwanted pursuit behaviours (such as monitoring social media profiles) may even be socially acceptable in modern emerging adult relationships (Utz & Beukeboom, 2011). In sum, the reconciliation pathway synthesizes the many factors reviewed here and appears to fit best with the models previously associated with post-breakup UPBs.

Dardis and Gidycz (2019) conducted the sole study to my knowledge assessing the validity of both the retaliatory and reconciliation pathways. In their model, the reconciliation pathway predicted that the relationship between high levels of anxious attachment and minor post-breakup UPBs and between poor emotion regulation and minor post-breakup UPBs are mediated by RGPT variables (Dardis & Gidycz, 2019). The retaliatory pathway in the model predicted that the relationship between poor impulse control and severe post-breakup UPBs and between relationship possessiveness and severe post-breakup UPBs are mediated by intimate partner violence (IPV) during the dating relationship (Dardis & Gidycz, 2019). SEM analysis revealed that both of these mediations were statistically significant. Of note, strong evidence was indicated for the existence of both the reconciliation pathway and retaliatory pathway (Dardis & Gidycz, 2019). Poor self-control, possessiveness, and intimate partner violence within the relationship were found to strongly predict severe cyber and in-person post-breakup UPBs and all had a modest relationship with minor cyber post-breakup UPBs. In contrast, anxious attachment, emotion regulation, and RGPT variables strongly predicted minor cyber and in-person post-breakup UPBs but did not predict severe post-breakup UPBs (Dardis & Gidycz, 2019). Individuals may still maintain a retaliatory motivation when using minor cyber UPBs (e.g., tracking them on Facebook). In contrast, those who want to reconcile the relationship understandably do not engage in severe behaviours that would likely end any chance at reconciliation (Dardis & Gidycz, 2019).

### **Temporary Breakups and Reconciliatory UPBs**

Temporary breakups are likely an important factor in the exploration of reconciliatory-motivated post-breakup UPBs. Although there are many negative factors associated with relational churning, these relationships also have been associated with positive relational qualities, such as more frequent intimate self-disclosure (Halpern-Meekin et al., 2013a). Individuals who experience frequent temporary breakups demonstrate a strong desire to make the relationship last (Halpern-Meekin et al., 2013a), which is consistent with reconciliatory-motivated post-breakup UPBs, such as leaving gifts, excessive messaging, or online monitoring. Experiencing past success in re-establishing a target relationship may result in greater self-efficacy towards future reconciliations of the same relationship, believing it is possible to get the partner back again with effort, subsequently increasing the frequency of post-breakup UPBs.

Research provides preliminary support for the validity of reconciliation and retaliatory pathways in understanding post-breakup UPBs (Dardis & Gidycz, 2017; 2019). If significant differences do exist in motivations underlying post-breakup UPBs, which the existing literature seems to strongly indicate is the case, then research in the area would benefit from differentiating which factors and theories are associated with reconciliatory-motivated versus retaliatorily-motivated post-breakup UPBs.

### **Summary of Current Research**

The current research will expand our knowledge of UPBs by further exploring reconciliatory-motivated UPBs, developing and testing a comprehensive theoretical model, and assessing the use of UPBs in two new relationship contexts: in temporary breakups and in intact relationships that previously experienced a breakup. The development of a parsimonious, comprehensive, and integrated model of reconciliatory-

motivated UPBs is necessary to capture much-needed insights into these distressing social behaviours. Whether an individual will engage in UPBs likely depends on interactions between relationship factors (intact relational UPBs, quality of perceived alternatives), personality traits (e.g., emotion regulation, anxious attachment), and state factors associated with the breakup itself (RGPT variables). This study will also examine how UPBs, iUPBs, and repeated breakups are associated with mental health (depression, anxiety) and relationship satisfaction.

In addition, the research will clarify issues related to operationalizing UPBs, assess UPBs in different relational contexts, and address the need for a comprehensive model of UPBs. In this study, post-breakup UPBs will be conceptualized as being composed of severe, retaliatory-motivated behaviours and less severe, reconciliatory-motivated behaviours, and the focus will be on less-severe, reconciliatory motivated behaviours. In contrast to past research, cyber and in-person post-breakup UPBs will be combined into a single inventory as a result of the limited utility a dividing UPBs into various categories (e.g., Cupach et al., 2011; Dardis et al., 2019). Many behaviours also do not clearly fall into online and offline behaviours, such as attempting to get information about an ex-partner (e.g., Lee & O'Sullivan, 2014). In the current study, UPB use will be measured via the frequency of use (how often behaviours are used on a weekly basis) and the range of UPB behaviours used (defined as the number of different behaviours endorsed). In contrast to previous research which has examined UPBs following a permanent breakup, this study will assess UPB use among partners who ultimately reconcile (temporary breakups) and partners in ongoing relationships (iUPBs).

Although the current study will employ retrospective data collection, it was hoped that a more accurate depiction of UPB use would be obtained by assessing the behaviour at multiple time points within the same relationship (after a recent temporary breakup, and in their ongoing relationship) as opposed to only following a permanent breakup. Finally, consistent with calls for research that better address the complexities of UPBs, a theoretical model that conceptualizes and tests more complex and indirect relationships between multiple factors and UPB use will be evaluated.

### **Objectives of the Current Research**

#### ***First Objective***

UPB use has only been studied among couples who had not reconciled at the time of the data collection. One aim of this research is to understand whether the factors underlying UPB use in permanent breakups are similar to those underlying temporary breakups. The consequences for mental health and relationship satisfaction following temporary breakups will be examined (e.g., Halpern-Meekin et al., 2013). It has been established that targets of UPBs following a permanent resolution employ maladaptive coping strategies (Richards & Dardis, 2022) and experience heightened symptoms of trauma and depression (Dardis et al., 2019). However, it is unknown whether individuals who use UPBs in temporary breakups and ongoing relationships experience the same consequences for mental health and relationship satisfaction. Emerging evidence also exists that higher levels of abuse and lower levels of relational maintenance are more common among couples who have experienced a temporary breakup (Halpern-Meekin et al., 2013a), however this has not been studied in the context of UPB use. The first objective of this study was to assess the association between UPB use in temporary



breakups and anxiety, depression, and relationship satisfaction in an ongoing relationship.

Research suggests that individuals who have previously reconciled with their current relationship partner will experience greater self-efficacy towards re-establishing the relationship (Halpern-Meekin et al., 2013a). Subsequently, it is likely that the more temporary breakups in a specific relationship will increase the use of UPBs. Individuals who successfully reconciled in the past with a specific partner are expected to report greater self-efficacy regarding the use of UPBs to reconcile again following a breakup. This increased self-efficacy may mediate the relationship between the number of past temporary breakups and the frequency of UPBs.

**Research Question 1.** Are UPBs common during temporary breakups?

**Hypothesis 1.** The majority of participants will report engaging in at least one UPB following their most recent temporary breakup.

**Research Question 2.** Is UPB use following a temporary breakup associated with symptoms of depression and anxiety, and with relationship satisfaction?

**Hypothesis 2.** Individuals who have experienced a greater range of UPBs following a temporary breakup will report more symptoms of depression and anxiety, along with less relationship satisfaction.

**Research Question 3.** Are the number of past temporary breakups in an intact intimate relationship associated with depression, anxiety, and with relationship satisfaction?

**Hypothesis 3.** Individuals who have experienced more temporary breakups in their current relationship will report greater symptoms of depression and anxiety, along with lower relationship satisfaction.

**Research Question 4.** Does self-efficacy mediate the relationship between the range of post-breakup UPBs and the number of temporary breakups in a reconciled relationship?

**Hypothesis 4.** The number of temporary breakups in an intact relationship will be positively associated with a greater range of post-breakup UPBs. Self-efficacy will partially mediate the relationship between the number of temporary breakups in an intact relationship and the range of post-breakup UPBs.

### ***Second Objective***

The extent to which UPBs are used within intact intimate relationships (iUPBs) has not been examined previously. In this study, intact intimate relationships refer to relationships that are currently intact, but they have previously experienced at least one breakup and reconciliation. The second objective of this research is to assess the impact of iUPBs, specifically the degree to which iUPBs are associated with symptoms of anxiety and depression and with relationship satisfaction. Research has demonstrated that post-relationship UPBs (Dardis & Gidycz, 2019) and frequent temporary breakups (Halpern-Meehan et al., 2013b) increase psychological and relational distress.

**Research Question 5.** How common are UPBs within intact relationships among couples who have experienced a previous breakup?

**Hypothesis 5.** The majority of individuals will report using at least one iUPB in their current relationship.

**Research Question 6.** Is using a greater range of iUPBs associated with symptoms of anxiety and depression, and with relationship satisfaction?

*Hypothesis 6.* A greater range of iUPBs will be associated with more symptoms of depression, more symptoms of anxiety, and less relationship satisfaction.

**Research Question 7.** Is using a greater range of iUPBs associated with perceived quality of alternatives, emotion regulation difficulties, and anxious attachment?

*Hypothesis 7.* A greater range of iUPBs will be associated with lower perceived quality of alternatives, greater emotion regulation difficulties, and greater anxious attachment.

### ***Third Objective***

Previous research has revealed few or no gender differences in the frequency or range of post-breakup UPBs (i.e., Cupach et al., 2011; Lee & O’Sullivan, 2014; Shorey et al., 2015). However, it cannot be assumed that UPB use during temporary breakups and within intact relationships are also not related to gender. Therefore, gender differences in intact relational UPBs and UPBs following temporary breakups will be examined. However, no hypotheses related to gender will be made in the absence of previous literature to guide such predictions.

Another consideration is the role of cohabitation in the use of iUPBs and UPBs following a temporary breakup. In stalking populations, having greater intimate knowledge of a target increases the effectiveness of pursuit behaviours (Logan & Walker, 2009). It is likely that individuals who cohabit are more intimately familiar with the routines of their ex-partner and may have easier access to passwords or even the

individual's residence following a breakup. Another goal of the current research is to assess whether a greater range of iUPBs and/or UPBs are used by individuals who cohabit compared to those who live apart.

**Research Question 8.** Are there gender differences in the range of UPB strategies and/or iUPB strategies following temporary breakups?

**Research Question 9.** Do individuals who cohabit engage in a greater range of UPBs and/or iUPBs following a temporary breakup compared to those who live apart?

**Hypothesis 8.** Individuals who cohabit with their partner will engage in a greater range of iUPBs compared to individuals who live in separate households.

**Hypothesis 9.** Individuals who cohabit with their partner will engage in a greater range of UPBs following a temporary breakup compared to individuals who live in separate households.

#### ***Fourth Objective***

The fourth objective of the current study was to validate the reconciliatory pathway of UPBs within relationships that experience a breakup-reconcile pattern. The proposed model posits that the quality of perceived alternatives, emotion regulation, anxious attachment, and intact relational UPBs predict reconciliatory-motivated post-breakup UPBs during reconciliations (see Figure 2). The relationship between these four factors and reconciliatory-motivated post-breakup UPBs is mediated by the RGPT factors of goal-linking, rumination, breakup distress, self-efficacy, and rationalization, which are experienced following relationship dissolution.

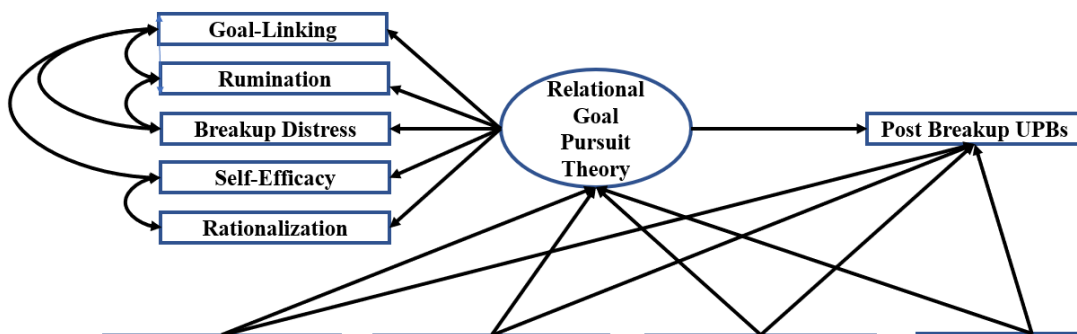
Some of the variables involved in RGPT, were expected to share variance outside of our model of UPBs. Predicted relationships were proposed between some of

the variables associated with RGPT, as well as some of the independent variables in the study.

Regarding the independent variables, the error terms between iUPBs and both anxious attachment and emotional regulation were also expected to be correlated, as individuals in relationships characterized by frequent tracking and monitoring were thought to have maladaptive emotion regulation skills and attachment styles independent of their relationship with post-breakup UPB use. Covarying error terms between emotion regulation and anxious attachment were expected given that they have a strong theoretical overlap (e.g., Scott et al., 2009).

Goal-linking and self-efficacy were thought to be related outside of the model as a result of the idea that the degree to which one sets harder goals would be related to the belief in one's ability to achieve them. The tendency to link low-level and high-level goals also was thought to be related to the persistent worry associated with rumination (Martin & Tesser, 1996), and experiencing a significant amount of negative emotion during a breakup independent of UPB use. Breakup distress and rumination also were predicted to have shared variance outside of the model. Negative affect and rumination have a long history of being strongly linked both in theory and research outside of UPB use (Papageorgiou & Wells, 2015). Finally, the strong distorted beliefs associated with rationalization (Guglielmo, 2015) were thought to have some overlap with the high level of confidence in oneself associated with self-efficacy (Amtmann et al., 2012).

**Figure 2. Proposed Model of Reconciliatory Unwanted Pursuit Behaviours.**



**Research Question 10.** Do RGPT variables (i.e., goal-linking, rumination, breakup distress, self-efficacy, and rationalization) partially mediate the relationship between a greater range of iUPBs, lower perceived quality of alternatives, greater emotion regulation difficulties, greater anxious attachment and a greater range of post-breakup UPBs?

**Hypothesis 10.** Higher levels of goal-linking, rumination, breakup distress, self-efficacy, and rationalization will be positively associated with a greater range of post-breakup UPBs.

**Hypothesis 11.** Rationalization will account for significantly more variance in post-breakup UPBs during temporary breakups than goal-linking, rumination, breakup distress, and self-efficacy.

**Hypothesis 12.** RGPT variables will partially mediate the relationship between a greater range of iUPBs, lower perceived quality of alternatives, greater emotion regulation issues, greater anxious attachment and a greater range of post-breakup UPBs.

## Chapter II: Method

### Participants

The final sample consisted of 502 individuals (128 men, 369 women, 5 nonbinary) with a mean age of 25.9 years ( $SD = 5.2$ ,  $Range = 19$  to 38). All individuals were in self-described heterosexual relationships that had been intact for at least two months and involved one previous breakup. The majority (75.6%) of individuals identified as White/Caucasian, other participants identified as Asian/Southeast Asian (9.7%), Black/African (4.6%), Latino/Hispanic (4.6%), Biracial (3.8%), Other (1.6%) and Indigenous/Aboriginal (0.2%). Regarding country of residence, 6.2% of the sample reported living in Canada, 35.1% reported living in the United States, and 58.5% of individuals reported living in the United Kingdom. All reported fluency in English. Regarding highest education completed, 12.7% of participants reported having completed high school, 27.0% completed some college, university, or technical school, 34.7% reported having a bachelor's degree, 2.6% reported having some graduate education, and 8.5% reported completing a graduate degree. More than half of the participants (53.2%) reported being full-time employed, 17.5% reported being part-time employed, 33.3% were full or part-time college/university and 7.8% were unemployed. Although all participants were in a heterosexual relationship, 95.6% identified as having a heterosexual orientation, 3.6% reported a bisexual orientation, and 0.8% selected other.

Respondents' relationships had an average duration that was close to 3 years ( $M = 34.5$  months,  $SD = 29.9$ ,  $Range = 0.5$  to 174). Many of the participants reported living in different residences (64.8%) from their relational partner. Participants reported how

many temporary breakups were experienced in their current relationship ( $M = 1.85$ ,  $SD = 1.54$ ). The time since the most recent breakup of the couple was quite variable ( $M = 44.6$  weeks,  $SD = 46.5$ ,  $Range = 1$  to 227 weeks). Regarding the participants' most recent breakup with their romantic partner, 38.2% indicated it was the partner's decision, 45.0% indicated it was their own decision, and 16.8% reported it was a mutual decision. Respondents reported on the number of romantic relationships they had previously experienced that were longer than two months and a mean of 3.80 ( $SD = 3.02$ ,  $Range = 0$  to 30) was found.

### **Procedure<sup>1</sup>**

Ethics approval for the original methodology (see Note 1) was obtained from the University of New Brunswick on November 27<sup>th</sup>, 2020. Modifications, including changes to recruitment ages and data collection procedures, were approved on February 17<sup>th</sup>, 2021, and August 28<sup>th</sup>, 2021. Data collection occurred via Amazon's Mechanical Turk® from November 7<sup>th</sup> to November 24<sup>th</sup>, 2021, before being discontinued, while data collection occurred via Prolific from September 18<sup>th</sup>, 2021, to June 19<sup>th</sup>, 2022.

All measures were first entered into Qualtrics®, a professional survey platform. Participants were recruited from two crowdsourcing sites (i.e., Amazon's Mechanical Turk (MTurk®) and Prolific®). Participants read a recruitment statement for the pre-screening questionnaire (Appendix A), completed a consent form for the pre-screener (Appendix B), and then ( $n = 10980$ ) were screened for eligibility for the main study

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<sup>1</sup> The procedure for this study was originally designed to have three waves of data collection in an attempt to capture breakups as they occur. Following a lower-than-expected number of breakups occurring in the pilot, the above procedure was approved in order to capture a greater number of breakups and to better investigate UPB use during temporary breakups. The original procedure also included recruiting university students registered in Introductory Psychology courses, which was halted following a lack of participants.



(Appendix C) from both Prolific ( $n = 9947$ ) and MTurk ( $n = 1033$ ). Of the 10980 individuals screened, a total of 1046 met this criterion ( $n = 133$  from MTurk,  $n = 913$  from Prolific). Of these individuals,  $n = 516$  individuals from Prolific and  $n = 20$  individuals from MTurk completed the study and answered consistently between the screener and the main study.

If it was determined they met relevant eligibility criteria, participants completed a second consent form (Appendix B) for the main study. To ensure strong data quality, both the screening questionnaire and the main survey asked similar questions about demographics and relationships. Individuals who answered differently regarding age, relationship status, or breakup history on both measures were disqualified from the study. Due to the high number of individuals attempting to repeat surveys from the same IP address on MTurk and inconsistent responses between measures, recruitment was halted on MTurk and was completed on Prolific only. Some participants ( $n = 20$ ) were used from MTurk after careful screening of data quality (e.g., checking duplicate IPs, duration of time spent on the survey, consistency of responses between the screener and main survey), otherwise, all participants were recruited from Prolific.

Measures included demographic and relevant relationship information (e.g., the number of previous breakups in their current intact relationship). Participants were asked to complete measures of intact relational UPBs, perceived quality of alternatives, emotion regulation, and anxious attachment; and measures associated with RGPT theory (goal-linking, rumination, breakup distress, self-efficacy, and rationalization), along with a measure of UPB use during a breakup. Measures assessing social desirability and the functional impact of COVID-19 were also administered. All participants received

survey items in the same order. Questions related to iUPB use were positioned midway through the survey, while questions related to UPB use following a temporary breakup were positioned towards the end of the survey. The total time to complete the survey was close to 25 minutes ( $M = 24.13$ ,  $SD = 12.03$ ). Participants were provided a debriefing form after completing the study (Appendix U).

## **Measures**

### ***Relational Screener***

Participants first completed a nine-item screener (Appendix C) to determine if they were eligible for the main study. Items included: “Have you ever broken up with your current dating partner?” and “How long have you been in your current dating relationship?” Other questions were filler items to disguise entry criteria (e.g., “how much time per day do you spend with your relationship partner?”).

### ***Demographic Information***

Participants completed a demographic measure designed for the current study. Information was collected regarding age, gender, sexual orientation, ethnicity, religion, educational level, and relationship status (Appendix D).

### ***Relationship History***

This measure assessed information relevant to participants current intact relationship including the gender of the participant’s current partner, relationship duration, previous breakups with the current partner, and the number of past intimate partners (Appendix E).

### ***Post-breakup UPBs***

The combination of the 10-item Minor In-Person Pursuit subscale of the Unwanted Pursuit Behaviour Inventory (UPBI; Dardis & Gidycz, 2019; Palarea & Langhinrichen-Rohling, 1998) and five items from the Controlling Partners Inventory-Self (CPI-S; Burke et al., 2011) was used to measure less severe UPBs (Appendix F). Examples of these items include unwanted contact, tracking, acquiring information about the former partner, leaving unwanted items, making threatening phone calls, excessive texting, and using online information to monitor partners. If an individual endorsed using a specific strategy via a yes/no checklist, they were then asked to report approximately how many times per week they engaged in the behaviour. A frequency score for this variable was calculated by summing the number of times each strategy was used, and the range of UPB strategies was calculated using the number of different strategies endorsed. The scale from the UPBI ( $\alpha = .81 - .82$ ; Dardis & Gidycz, 2019; Langhinrichsen-Rohling et al., 2000) and the CPI-S ( $\alpha = .79$ ; Dardis & Gidycz, 2017) have both demonstrated adequate internal consistency in college populations. Convergent validity has been demonstrated for the UPBI through positive associations with possessive and dependent love styles, and divergent validity was seen by a lack of relationship between secure attachment and the UPBI (Wigman et al., 2008). Content and face validity for the CPI-S was established by sending the measure to a variety of experts in the field (Burke et al., 2011). An adequate internal consistency was found in the current study regarding the number of strategies used ( $\alpha = .72$ ), but a poor internal consistency was found for UPB frequency ( $\alpha = .35$ ). The range of UPB strategies used, and not the frequency of use was retained as the dependent variable in this research. Factor analysis was not completed for items of UPB use as other research has

extensively examined categories of UPB use (e.g., Cupach & Spitzberg, 2004; Dutton & Winstead, 2006; Spitzberg & Cupach, 2006).

### ***Intact Relational UPBs***

An 11-item expanded version of the Behavioural Jealousy subscale from Pfeiffer and Wong's (1989) widely used 24-item Multidimensional Jealousy Scale assessed the frequency of intact relational UPBs within a current intimate relationship (Appendix G). Items include: "I looked through my partner's drawers, handbags, or pockets," and "I question my partner about previous or present intimate relationships". iUPB frequency was calculated by summing how often each strategy was used per week, and iUPB strategies was calculated by summing the number of different strategies used in the past month. Research has shown a strong internal consistency, and it has been used in young adult samples ( $\alpha = .87$ ; Tassy & Winstead, 2014). Evidence for convergent and divergent validity was found for the Behavioural Jealousy subscale, which was negatively associated with happiness and liking (Pfeiffer & Wong, 1989). The subscale also demonstrated strong concurrent validity with the Self-Report Jealousy Scale, a previously validated measure of jealousy (Elphinson et al., 2011). An adequate internal consistency was revealed for the number of different strategies used ( $\alpha = .69$ ) in the current study, whereas poor internal consistency was found regarding iUPB frequency ( $\alpha = .57$ ). The range of iUPB strategies, and not the frequency of use, was used as the dependent variable in this research due to a stronger internal consistency. Although iUPBs are novel to this study, a factor analysis was not completed as there is little

evidence of the utility of splitting UPBs into different categories in other contexts such as post-breakup (Dardis & Gidycz, 2017).

### ***Depressive Symptoms***

The Depression subscale of the Depression, Anxiety, and Stress Scale 21 (DASS-21; Lovibond & Lovibond, 1995) was used to measure the emotional state of depression (Appendix H). The Depression subscale assesses factors such as anhedonia, hopelessness, self-deprecation, and dysphoria (e.g., “I found it difficult to work up the initiative to do things”). Individuals responded using a 4-point Likert scale from 0 (*Did not apply to me at all*) to 4 (*Applied to me very much or most of the time*). Scores were calculated as a sum of all items. This scale has shown a good average internal consistency ( $\alpha = .88$ ) across several young adult samples (Henry & Crawford, 2005). Evidence also suggests strong convergent and discriminant validity using Pearson product moment correlations for each subscale when comparing individuals who score high on this subscale compared to the normal population (Lovibond & Lovibond, 1995). The Depression subscale has also displayed a significant negative correlation with the Positive Affect subscale from the PANAS (Henry & Crawford, 2005). The current study revealed a strong internal consistency ( $\alpha = .93$ ) for this measure.

### ***Anxiety Symptoms***

The Anxiety subscale of the Depression, Anxiety, & Stress Scale 21 (DASS-21; Lovibond & Lovibond, 1995) was used to measure the emotional state of anxiety (Appendix I). The Anxiety subscale measures autonomic arousal, situation anxiety, and

subjection experience of anxious affect (e.g., “I felt scared without any good reason”). Individuals responded using a 4-point Likert scale from 0 (*Did not apply to me at all*) to 4 (*Applied to me very much or most of the time*). Scores were calculated as a sum of all items. The Anxiety subscale has consistently shown a good average internal consistency in young adult samples ( $\alpha = .82$ ; Henry & Crawford, 2005). Evidence also suggests strong convergent and discriminant validity using Pearson product moment correlations for each subscale when comparing individuals who score high on this subscale compared to the normal population (Lovibond & Lovibond, 1995). A good internal consistency was found in the current study ( $\alpha = .84$ ).

### ***Relationship Satisfaction***

Relationship satisfaction (Appendix J) was measured using 16 items from the Couples Satisfaction Index (CSI-16; Funk & Rogge, 2007). An example item includes “How well does your partner meet your needs.” Responses were made using various 5-point Likert Scales, such as from 0 (*Not at all true*) to 5 (*Completely true*). Higher scores represent stronger relationship satisfaction and were calculated as a total sum. A meta-analysis that assessed studies using the CSI indicated the average Cronbach’s alpha to be .94. CSI scores also were indicated to be strongly correlated to other measures of relationship satisfaction (Graham et al., 2011). This scale has been widely used in young adult populations (Graham et al., 2011). Strong internal consistency was revealed in the current study ( $\alpha = .98$ ).

### ***Perceived Quality of Alternatives***

The widely adopted Quality of Alternatives subscale from the 37-item Investment Model Scales (Rusbult et al., 1998) was used in the current study (Appendix

K). Five introductory facet items (e.g., “my needs for intimacy could be fulfilled in alternative relationships”), rated on a 4-point Likert Scale ( $0 = Do\ Not\ Agree\ at\ All\ to\ 3 = Agree\ Completely$ ) are first administered but do not contribute to the final score. Five global items further assessed the perceived quality of alternative partners (e.g., “The people other than my partner are very appealing”). Items were rated using a nine-item Likert scale ( $0 = Do\ not\ agree\ at\ all\ to\ 8 = Agree\ completely$ ) and total scores reflect the sum of the five global items, with higher scores representing a higher level of perceived quality of alternatives. Higher scores on this subscale have been associated with lower levels of relationship satisfaction and investment in the relationship (Rusbult et al., 1998) and the scale has been validated in multiple international samples of young adults (Rodrigues & Lopes, 2013). The Cronbach’s alphas for the facet items ( $\alpha = .86$ ) and global items ( $\alpha = .86$ ) were good in the current study.

### ***Emotion Regulation***

The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 36-item measure that assessed emotion regulation in areas such as understanding and acceptance of emotions, the functional impact of emotions, awareness, and modulation of emotional arousal (Appendix L). Items included: “I pay attention to how I feel,” and “When I’m upset, I become out of control.” Items were rated on a 5-point Likert scale ranging from 0 (*almost never*, 0-10% of the time), to 4 (*almost always*, 91-100% of the time). Scores are calculated to reflect the sum of all items, with higher scores representing greater difficulties with emotion regulation. Factor analysis (Gratz & Roemer, 2004) revealed good test-retest reliability and strong reliability was found in the current study ( $\alpha = .95$ ).

### ***Anxious Attachment***

The Experiences in Close Relationships Scale is a 36-item scale that assesses adult attachment style (Brennan et al., 1998). The 18-item Attachment Anxiety subscale was used in the current study to measure anxious attachment (Appendix M). Sample items included: “I need a lot of reassurance that I am loved by my partner” and “I worry that my partner will leave me.” Items were rated on a 5-point Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*) with higher scores representing stronger attachment anxiety. A total score was obtained by summing all items in the measure. In several studies, Wei et al. (2007) revealed Cronbach alphas ranging from 0.77 to 0.86 for Attachment Anxiety. Evidence was provided for construct validity, stable factor structure, and convergent validity with excessive reassurance-seeking in formative work (Wei et al., 2007). Cronbach alpha was indicated to be very high ( $\alpha = .93$ ) in the current study.

### ***Goal-Linking***

The extent to which an individual had linked a lower-order relational goal with a higher-order goal was measured using the Goal-Linking Scale developed specifically for research on UPBs (Cupach et al., 2011) (Appendix N). The scale consists of eight items rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores are calculated to reflect the total sum of all items. An example of the items includes “I came to think this person was my ideal partner.” Strong face validity and criterion-related validity were found for scale items in studies of UPBs (Kam & Spitzberg, 2005). This measure has been widely used in young adult populations (e.g.,



Cupach et al., 2011; Dardis & Gidycz, 2019; Foshay & O’Sullivan, 2019). The current study revealed evidence of strong reliability ( $\alpha = .91$ ).

### ***Rumination***

The Event-Related Rumination Inventory (Cann et al., 2011) is a 20-item measure that assesses the degree of rumination associated with a specific event (Appendix O). The scale is divided into two 10-item subscales of intrusive rumination and deliberate rumination. Intrusive rumination is defined as involuntarily thinking about the event, whereas deliberate rumination is defined as thinking about the event intentionally. The scale measures the frequency with which ruminative thoughts occurred on a 4-point Likert scale from 0 (*not at all*) to 3 (*often*). Scores are calculated to reflect the sum of all items. An example of the items is “I found myself automatically thinking about what had happened.” The measure has displayed strong internal consistencies for the intrusive rumination ( $\alpha = .94$ ) and deliberate rumination ( $\alpha = .88$ ) subscales (Cann et al., 2011). Independent international research has found comparable high internal consistencies for both subscales ( $\alpha = .90$  for intrusive rumination,  $\alpha = .93$  for deliberate rumination; Zhang et al., 2013). Similar to the study conducted by Foshay and O’Sullivan (2019), the total score will be used in this study. A strong internal consistency was found previously (Foshay & O’Sullivan, 2019;  $\alpha = .94$ ) and in the current study ( $\alpha = .95$ ).

### ***Breakup Distress***

The Breakup Distress Scale (BDS; Field et al., 2009) is a 16-item measure (Appendix P) adapted from the Inventory of Complicated Grief (ICG; Prigerson et al., 1995) which assesses distress experienced following an intimate relationship breakup.

An example item for this measure is “I feel disbelief over what happened.” Items are rated on a Likert scale ranging from 1 (*not at all*) to 4 (*very much so*). Scores are calculated to reflect the sum of all items. The original ICG used factor analytical studies to differentiate complicated grief symptoms from depression or anxiety (Boelen et al., 2003). The BDS has demonstrated strong associations with depressive symptoms after a relationship breakup ( $r = .78$ ) and had strong internal consistency in the method development study ( $\alpha = .93$  at Time 1 and  $\alpha = .96$  at Time 2; Fields, 2009). This scale has also shown a high association with the Beck Depression Inventory (BDI) and has been used in samples of young adults (Field et al., 2013). The measure demonstrated high internal consistency ( $\alpha = .94$ ) in the current study.

### ***Self-Efficacy***

Perceived self-efficacy was measured using an eight-item scale (Appendix Q) developed specifically for research on UPBs (Cupach et al., 2011). It assesses the degree to which one feels confident in one’s ability to re-establish a lost relationship. Items included “I still feel capable of getting back into a relationship with this person,” and “I was doubtful that my partner would ever get back together with me”. The items were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores are calculated as a sum of all items. The authors reported an adequate internal consistency ( $\alpha = .77$ ; Cupach et al., 2011). Strong face validity and criterion-related validity were found for scale items in studies of UPB use (Kam & Spitzberg, 2005). This measure has been widely used in young adult populations (e.g., Cupach et al., 2011; Dardis & Gidycz, 2019; Foshay & O’Sullivan, 2019). The current study revealed a good internal consistency ( $\alpha = .82$ ).

### ***Rationalization***

A modified 11-item version of the UPB Rationalization Scale (Brownhalls et al., 2019) was used to assess the rationalization of UPBs (Appendix R). The original scale is composed of three items that assess attitudes of permissiveness towards one's use of UPBs (e.g., "If I behaved badly, it was because of the way I was feeling"), and four items that assess distorted attitudes regarding intentions and behaviours during UPBs (e.g., "If my identified partner ignored me, it was because she or he was playing hard to get"). The adapted measure is composed of six items measuring permissiveness and five items measuring distortions. They were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores calculated as sums represent higher levels of permissiveness and distorted attitudes. The original study (Brownhalls et al., 2019) found adequate internal consistency for the subscales of permissiveness ( $\alpha = .70$ ) and distortion ( $\alpha = .74$ ). The lack of further validation of these two subscales and the relatively poor internal consistency found by Brownhalls et al., (2019) prompted this study to amalgamate the two scales into one scale with a total score. A good internal consistency was found in the current study ( $\alpha = .82$ ).

### ***Socially Desirable Responding***

The Brief Social Desirability Scale (Haghighat, 2007) is a 4-item measure designed to quickly detect socially desirable responding (Appendix S). An example item is "Do you always practice what you preach". Each item is scored as "yes" or "no" and then assigned a value of either 0 or 1, and all four items are summed to obtain a total score. Higher scores reflect greater levels of social desirability responding. This measure has previously been found to have adequate internal reliability ( $\alpha = .60$ ; Haghighat,

2007). The internal consistency was indicated to be poor in the current study ( $\alpha = .51$ ) and subsequently was not used to screen out respondents.

### ***COVID-19 Impact***

Because the study was launched when the pandemic was underway, a 6-item measure adapted from Conway et al., (2020) was used to determine the general impact of COVID-19 on the functioning of the participants (Appendix T). Items were rated on a 7-point Likert scale ranging from 1 (*Very Untrue of me*) to 7 (*Very True of me*). Items included “The coronavirus (COVID-19) outbreak has impacted my psychological health negatively.” The perceived coronavirus threat scale was found to have excellent internal consistency ( $\alpha = .90$ ; Conway et al., 2020). A good internal consistency was found in this study ( $\alpha = .85$ ). No information regarding this scale’s relationships to other variables was available at this time.

### **Data Conditioning**

#### ***Missing Data***

After reviewing the original dataset ( $n = 536$ ), only one participant was found to have greater than 1% of their data missing. This participant was removed from the study as they did not respond to any questions on a key measure (self-efficacy). Mean substitution was used in the rare occurrence ( $n = 1$ ) of missing data for measures of depression, anxiety, relationship satisfaction, quality of alternatives, emotion regulation, anxious attachment, goal-linking, rumination, breakup distress, self-efficacy, and rationalization. Any non-response to questions related to UPB use was automatically coded to “no”, although there was only one occurrence of this in the dataset. Any missing demographic and/or relationship information was left blank.

### *Univariate Outliers*

The majority of measures in the study employed a Likert response scale, and none of the total scores for these measures was found to have univariate outliers greater than three standard deviations (SDs) from the mean. However, univariate outliers were a significant issue regarding the frequency of intact relational UPBs and post-breakup UPBs, as well as the number of different strategies used for each. Many of the UPBs measured in the study are low base-rate behaviours and thus a non-normal distribution is expected. Due in part to the high number of individuals reporting no UPB use, several univariate outliers were far above the 3.3 SD standardized score cut-off recommended for large samples (Tabachnick & Fidell, 2013). Univariate outliers above 3.3 SDs were recoded to the highest value in the survey below or at 3.3 SDs from the mean. Individual items were not recoded even if an extremely high frequency of use was reported. Standard scores for each variable were re-examined following each value change. Overall, 10 data points were recoded regarding the frequency of intact relational UPBs, 5 data points were recoded regarding the number of different intact relational UPB strategies used, 7 data points were recoded regarding the number of different post-breakup UPB strategies, and 5 data points were recoded regarding the frequency of post-breakup UPB use.

### *Multivariate Outliers*

Multivariate outliers were examined using Mahalanobis distance, where all the variables included in the structural equation model were first entered into linear regression, and standardized scores were obtained for the combined sum of these measures. Similar to the univariate analysis, a 3.3 SD cut-off was used. The critical chi-

square value table was used as well to assess multivariate normality. Ultimately, two participants with Mahalanobis distance z scores above the 3.3 SD cutoff were retained (ranges from 3.3 to 3.5), as a result of being in the acceptable range according to this critical value table. Six participants were removed as a result of violating multivariate normality. Participants were removed one at a time and the dataset was re-examined after each deletion.

### ***Normality***

Normality was assessed for all variables used in the analysis. As identified when assessing univariate outliers, the UPB measures were quite skewed and kurtotic. However, UPBs are not expected to be normally distributed in the population due to the low base-rate (Dardis & Gidycz, 2019). Other variables also violated the cut-off for acceptable skew and kurtosis to a lesser extent, which is considered to be any value above the absolute value of 2.58 when dividing the statistic by the associated standard error (Tabachnik & Fidell, 2013). Using this value, depressive symptoms, anxiety symptoms, relationship satisfaction, quality of perceived alternatives, self-efficacy, and rumination were found to be skewed, whereas breakup distress had issues with kurtosis. Logarithmic, squared root, cubed root, and exponential transformation were performed on all variables that violated skewness or kurtosis. A logarithmic transformation was used on the anxiety symptom variable, which significantly reduced skewness. Transformations did not significantly improve any of the other variables, and thus all of these variables were kept in their original state.

### ***Linearity***

Linearity between variables was assessed using scatterplots. The majority of the variables that did not include iUPBs or post-breakup UPBs were visually inspected and found to have a fairly linear relationship with the others. As UPB use and iUPB use is a relatively low base rate behaviour that presents with violations in normality, some of the scatterplots between UPB use and other variables were clustered towards the bottom (reflecting the relatively low rate of specific UPB behaviours in the general population), as expected.

### ***Multicollinearity***

Multicollinearity was assessed using a visual inspection of correlation tables as well as observing the variance inflation factor (VIF) provided by SPSS. A visual examination of bivariate correlations between all variables used in the analyses found that no correlation exceeded .8 (the typical cut-off for multicollinearity; Vatcheva et al., 2016), with the highest correlation being between breakup distress and rumination ( $r = .68$ ). The variance inflation factor measures the strength of the correlation between the predictor variables in a regression model. VIF values above 5 are generally regarded as problematic (Vatcheva et al., 2016). This procedure revealed that none of the VIF values exceeded the cut-off of 5, with the highest value being 2.1.

### ***Residual Normality***

A final assumption of structural equation modelling is that the residuals in the model should be small and centered around zero (Tabachnik & Fidell, 2013). The residual moments indicated in the analysis measure the frequency distribution of covariances and should be symmetrical. Standardized residuals should generally be below the absolute value of two, with a higher value suggesting that more paths are

needed. Of the 55 residual covariances in the model, only 4 were found to be greater than an absolute value of two, including between self-efficacy and UPB strategies ( $\beta = 2.49$ ), between self-efficacy and iUPB strategies ( $\beta = 2.07$ ), between emotion regulation and self-efficacy ( $\beta = -3.71$ ), and between anxious attachment and self-efficacy ( $\beta = -2.86$ ). Paths between these variables were ultimately not created due to a lack of theoretical justification and to maintain model parsimony.

In sum, this dataset was examined for univariate and multivariate outliers, normality, missing data, linearity, multicollinearity, and the symmetry of residuals. Inconsistency in responding and performance on attention checks was also examined. Of the 536 participants that completed the full study, the final dataset consisted of 502 individuals after 7 participants were deleted for reporting their most recent breakup was over 3.5 years ago, 1 participant was deleted for missing data, 6 participants were deleted as a result of failing attention checks, 14 participants were deleted for inconsistent responding throughout the survey or completing the survey in under seven minutes, and 6 individuals were deleted for violating multivariate normality.



## Chapter III: Results

### Descriptive Data

Means and standard deviations for the variables in the study are provided in Table 1. Findings suggested that individuals use a slightly greater number of UPB strategies within their ongoing relationship (iUPBs) when compared to UPB strategies engaged in during their most recent temporary breakup. Individual items associated with UPBs and iUPBs appear to be low base rate behaviours. Ratings of depressive and anxious symptoms were quite a bit below the midpoint of the scale, indicating that, on average, our sample was not experiencing much anxiety or depression at the time of data collection. This is consistent with issues of normality which resulted in the anxiety variable undergoing a logarithmic transformation for analyses. Participants also appeared fairly satisfied with their current relationships, rating their relationships above the midpoint of this scale. However, there was a large standard deviation associated with relationship satisfaction, which may suggest there was a subset of individuals who are extremely dissatisfied with their ongoing relationship.

Regarding the perceived quality of alternatives, individuals reported a level of confidence that was slightly below the midpoint of the scale, suggesting that among the sample there may be a lower level of confidence that they could meet their relational needs with another person/partner. Individuals reported issues of emotion regulation and anxious attachment closer to the mid-point of the scale.

Among RGPT variables, levels of goal-linking, rumination, and self-efficacy about re-establishing the relationship were indicated by mean scores occurring above the midpoint of all of these scales. This suggests that our sample has generally linked their

current relationship with higher-order goals (e.g., fulfilment), they were confident that they could reconcile their relationship, and they tended to experience a high level of rumination about the breakup. Finally, ratings of breakup distress and rationalization were at the mid-point of their respective scales, suggesting that individuals experienced a moderate level of negative emotion in response to their most recent breakup, and they endorsed a moderate level of cognitive distortions and permissiveness towards their UPB use.

**Table 1. Means and Standard Deviations of Primary Variables**

Variable	Mean	Standard Deviation	Range
UPB Strategies	1.46	1.78	0 – 15
iUPB Strategies	1.86	1.90	0 – 11
Depressive Symptoms	6.91	5.58	0 – 21
Anxiety Symptoms	5.57	4.37	0 – 21
Relationship Satisfaction	54.16	18.16	0 – 81
Quality of Alternatives	16.88	9.59	0 – 40
Emotion Regulation	94.76	24.24	36 – 180
Anxious Attachment	69.44	23.00	18 – 126
Goal-Linking	36.01	11.59	8 – 56
Rumination	37.46	12.92	0 – 60
Breakup Distress	40.62	12.54	16 – 64
Self-Efficacy	38.56	9.27	8 – 56
Rationalization	36.44	11.17	11 – 77

*Note.*  $N = 502$ .

Bivariate correlations also were examined between UPB variables, depressive symptoms, anxious symptoms, and relationship satisfaction (Table 2). The results suggested that UPBs that occur during ongoing relationships (iUPBs) are positively associated with depressive and anxious symptoms and are negatively associated with

relationship satisfaction. UPB use during the most recent temporary breakup had a modest positive relationship with symptoms of anxiety and an insignificant relationship with depressive symptoms and relationship satisfaction. This is not surprising, as UPB use that is ongoing (iUPBs) likely has a greater role in mental health and satisfaction with a relationship. As opposed to iUPBs, which were being experienced by individuals at the time of data collection, some of the temporary breakups reported in the study occurred years prior to data collection. It is therefore understandable that the range of UPB strategies used two years ago has little relationship with current depressive symptoms and relationship satisfaction. However, anxious symptoms were significantly related to UPB use during the most recent temporary breakup, which may suggest that individuals who engage in UPBs during a temporary breakup tend to be more anxious when compared to the general population. The strong associations found between depressive and anxious symptoms were expected, whereas satisfaction with a relationship had a stronger association with current depressive symptoms when compared to symptoms of anxiety.

**Table 2. Bivariate Correlations Between UPBs, iUPBs, Depressive Symptoms, and Relationship Satisfaction.**

Variable	UPB	iUPB	Depression	Anxiety
UPB				
iUPB	.36***			
Depression	.06	.17***		
Anxiety	.12**	.22***	.59***	
Satisfaction	-.02	-.15**	-.33***	-.17***

*Note.*  $N = 502$ . The anxiety variable was logarithmically transformed to minimize concerns related to skewness and kurtosis.

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

The relationships between the variables in our structural equation model of reconciliatory UPBs was examined using bivariate correlations (Table 3). This analysis generally revealed strong relationships between variables in the model. UPBs were significantly associated with most of the variables in the model except for the perceived quality of alternatives, and iUPBs were significantly associated with all of the variables apart from the perceived quality of alternatives, goal-linking, and self-efficacy. The perceived quality of alternatives was found to have insignificant relationships with the other independent variables in the study (anxious attachment, emotion regulation, and iUPBs), while having significant associations with all RGPT variables apart from self-efficacy.

Regarding personality variables, both emotion regulation and anxious attachment were significantly associated with all of the variables apart from goal-linking and the

perceived quality of alternatives. RGPT variables were generally significantly associated with each other apart from self-efficacy. Self-efficacy was unrelated to many of the variables in the model, including iUPB strategies, rumination, breakup distress, and the quality of alternatives. A weak significant relationship was found between self-efficacy and UPB use. Rationalization was the only variable with statistically significant relationships with all of the other variables in the model.

The strength of the bivariate relationships also was visually examined. The strongest correlation was between breakup distress and rumination, which was not surprising given the moderate degree of overlap in terms of theory (Cupach & Spitzberg, 2004) and research (Cupach et al., 2011). Emotional regulation and anxious attachment produced the second strongest correlation, again consistent with some theoretical overlap (e.g., Scott et al., 2009). Finally, although iUPBs and UPBs were moderately correlated, the overlap between these concepts was less than anticipated, which suggests that different mechanisms underlie each of these two factors.

**Table 3. Bivariate Correlations Between Variables in the Model**

	UPB	iUPB	ALT	ER	AA	GL	RU	RA	SE
UPB									
iUPB	.36**								
ALT	-.05	.05							
ER	.15**	.17**	.00						
AA	.22**	.40**	.02	.52**					
GL	.19**	.06	-.44**	.07	.07				
RU	.19**	.21**	.12**	.20**	.30**	.36**			
RA	.31**	.27**	.13**	.20**	.24**	-.18**	.18**		
SE	.09*	.08	-.05	-.19**	-.16**	.19**	.05	.17**	
BD	.27**	.21**	-.20**	.34**	.41**	.40**	.65**	.31**	.03

Note.  $N = 502$ . UPB = Unwanted Pursuit Behaviours (strategies), iUPB = Intact

Relational Unwanted Pursuit Behaviours (strategies), RU = Rumination, BD = Breakup Distress, GL = Goal Linking, SE = Self-Efficacy, RA = Rationalization, AA = Anxious Attachment, ALT = Perceived Quality of Alternatives, ER = Emotion regulation

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

Although age was not considered in the initial analysis plan and is not associated with any research question, the current study expanded the upper end of the age range of our sample from 29 to 38 years due to recruitment challenges. Subsequently, the relationship between age and UPB and iUPB use in our sample was assessed. Bivariate correlations were examined, and insignificant relationships were found between age and post breakup UPB strategies ( $r = .03, p = .52$ ), and between age and iUPB strategies ( $r = -.08, p = .06$ ).

## **UPB Use During Temporary Breakups**

The current study aimed to assess UPB use during breakups of relationships that were ultimately re-established. As a poor internal consistency was indicated regarding UPB frequency, the range of UPB strategies used was used to capture this behaviour.

### ***Research Question 1***

Are UPBs common during temporary breakups?

The use of UPBs during temporary breakups was reported by 61.4% of the sample. Subsequently, the hypothesis that the majority of the sample would report at least one UPB following a temporary breakup was supported. Of the sample that indicated at least one UPB, the average number of strategies was  $M = 2.38$ ,  $SD = 1.71$  ( $Range = 1$  to  $7$ ). For the following strategies and those listed in Table 4, percentages reflect the proportion of the overall sample who endorsed the behaviour. The most common strategy used among the sample was engaging their ex-partner in an in-person conversation after the breakup. The least endorsed strategy was checking a partner's email history.

**Table 4. UPB Strategy Use Among Sample**

UPB Strategy	Percent of Sample	Range	Mean	SD
I showed up in places where I thought he/she might be.	12.5%	4.9	1.46	1.15
I went out of my way to run into him/her "unexpectedly."	8.57%	4.9	1.48	1.24
I unexpectedly visited him/her at school/work/some other public place.	3.59%	2.9	1.34	.93
I unexpectedly visited him/her at his/her home.	5.58%	4.9	1.35	1.31
I gave him/her items (e.g., letters/gifts) in person.	15.5%	5.9	.82	.77
I waited outside his/her home/work/school.	3.78%	11.7	1.96	2.73
I contacted his/her family/friends without his/her	9.16%	7.9	1.67	1.64
I asked friends for information about him/her.	19.9%	6.9	1.35	1.18
I sent/left unwanted letters/gifts.	3.39%	4.9	1.02	1.27
I tried to engage him/her in a conversation in person.	32.9%	7.9	1.92	1.68
I checked his/her cell phone call history.	4.18%	6.7	2.35	1.96
I made an excessive number of cell calls to him/her.	8.17%	29.5	5.71	6.74
I used his/her password to check up on him/her.	3.19%	5.9	2.30	2.00
I sent an excessive number of texts to him/her.	17.3%	199.8	10.2	26.2
I checked his/her sent/received email history.	1.59%	6.5	2.50	2.12

*Note.*  $N = 502$ .



### ***Research Question 2***

Is the range of UPB use following a temporary breakup associated with symptoms of depression and anxiety and with relationship satisfaction?

The hypothesis that a greater range of UPB strategies would be correlated with symptoms of depression and anxiety, and with relationship satisfaction following a temporary breakup was partially supported: the range of UPB strategies following a temporary breakup was positively correlated with anxiety symptoms ( $r = .12, p = .006$ ), but not correlated with depression symptoms ( $r = .06, p = .20$ ) or relationship satisfaction ( $r = -.02, p = .59$ ).

### ***Research Question 3***

Are the number of past temporary breakups in an intact intimate relationship associated with symptoms of depression and anxiety, and with relationship satisfaction?

The number of temporary breakups in the individual's current dating relationship was significantly correlated with anxiety, depression, and relationship satisfaction, supporting Hypothesis 3. The number of temporary breakups was positively correlated with anxiety ( $r = .10, p = .03$ ) and with depression ( $r = .17, p < .001$ ), and negatively correlated with relationship satisfaction ( $r = -.31, p < .001$ ). Thus, those who reported more temporary breakups reported slightly more anxiety and depressive symptoms and moderately lower relationship satisfaction.

### ***Research Question 4***

Does self-efficacy mediate the relationship between the range of post-breakup UPBs and the number of temporary breakups in a reconciled relationship?

The possible mediating effect of self-efficacy on the relationship between the number of previous temporary breakups in the relationship and the use of UPB strategies was examined through the PROCESS<sup>®</sup> macro in SPSS. Although there was a strong relationship between the number of temporary breakups and UPB strategy use ( $t(496) = 3.40, p < .001$ ), this analysis revealed no significant direct relationship between the number of previous temporary breakups and self-efficacy ( $t(497) = 1.50, p = .13$ ) or between self-efficacy and the use of UPB strategies ( $t(496) = 1.87, p = .061$ ). Thus, Hypothesis 4 was not supported.

### **Currently Intact Relational UPB Use**

The second objective of the study was to assess UPB use within ongoing relationships that had previously experienced at least one breakup. The overall frequency of iUPBs within an intact relationship was obtained by summing the average weekly use of each strategy, whereas the overall number of strategies of iUPBs was obtained by summing the number of strategies endorsed by each participant. As a poor internal consistency was noted for iUPB frequency, the range of iUPB strategies used was used to capture this behaviour.

### ***Research Question 5***

How common are UPBs within intact relationships among couples who have experienced a previous breakup?

It was revealed that 72.3% of participants reported engaging in at least one intact relational UPB (iUPB), support Hypothesis 5. Of individuals who reported using at least one iUPB, the average number of strategies used was  $M = 2.57, SD = 1.77$  ( $Range = 1$  to 8). For the following strategies and those listed in Table 5, percentages reflect the

proportion of the overall sample who endorsed the behaviour. The most common iUPB strategy endorsed was calling their partner unexpectedly just to see if they were there and questioning one's partner about previous or current intimate relationships. The least commonly endorsed iUPB strategy was paying their partner a surprise visit to see who is with them.

### ***Research Question 6***

Is using a greater range of iUPBs associated with symptoms of depression and anxiety, and with relationship satisfaction?

The relationship between iUPB strategies, anxiety, depression, and relationship satisfaction was explored using bivariate correlations. The use of more iUPB strategies had significant positive associations with anxiety ( $r = .22, p < .001$ ) and depression ( $r = .17, p < .001$ ), along with significant negative associations with relationship satisfaction ( $r = .15, p = .001$ ), thus supporting Hypothesis 6. These findings indicate that participants who reported the use of more iUPB strategies also reported experiencing higher levels of anxiety, depression, and low relationship satisfaction.

**Table 5. iUPB Strategy Use in the Past Month Among Sample**

iUPB Strategy	Percent of Sample	Range	Mean	SD
I have looked through my partner's drawers, handbag, or pockets.	14.5%	5.9	1.27	1.16
I called my partner unexpectedly, just to see if he/she is there.	31.3%	11.9	1.78	1.73
I questioned my partner about previous or present intimate relationships.	26.9%	6.9	.92	1.04
I have said something nasty about someone of the opposite sex if my partner shows an interest in that person.	16.9%	3.9	1.09	.95
I have monitored my partner's daily activities.	16.3%	69.9	3.58	7.77
I have questioned my partner about his/her telephone calls.	11.0%	11.9	1.64	1.98
I have questioned my partner about his/her whereabouts.	26.7%	6.9	1.71	1.39
I have joined in whenever I see my partner talking to a member of the opposite sex.	8.96%	3.9	1.13	.95
I have paid my partner a surprise visit just to see who is with him/her.	2.39%	3.9	1.49	1.16
I have monitored my partners online activity.	21.1%	69.9	3.78	8.82
I have accessed my partner's online accounts without their knowledge.	10.2%	6.9	1.50	1.50

Note.  $N = 502$ .

### **Research Question 7**

Is using a greater range of iUPBs associated with perceived quality of alternatives, emotion regulation difficulties, and anxious attachment?

Hypothesis 7 was partly supported. A greater number of iUPB strategies endorsed was positively correlated with emotion regulation ( $r = .17, p < .001$ ) and with

anxious attachment ( $r = .40, p < .001$ ). However, the correlation between perceived quality of alternatives and iUPB strategies used was not significant ( $r = .051, p = .26$ ).

### **Differences in Range of UPB Strategies and iUPB Strategies Used by Gender and by Cohabitation**

#### ***Research Question 8***

Are there gender differences in the range of UPB strategies and/or iUPB strategies following a temporary breakup?

Gender differences in the range of UPB strategy use and iUPB strategy use were examined. For this analysis, the sample was comprised of 128 men (25.8%) and 369 women (74.2%). Five individuals identified as non-binary and were not included as a result of a small sample size. A one-way MANOVA was used to examine the relationships. Results indicated that these relationships were non-significant,  $F(2, 494) = 1.85, p = 0.16$ , Wilk's  $\Lambda = 0.99$ , partial  $\eta^2 = 0.007$ .

#### ***Research Question 9***

Do individuals who cohabit engage in a greater range of UPBs and/or iUPBs following a temporary breakup compared to those who live apart?

Hypotheses 8 and 9 were partially supported. A one-way MANOVA was used to examine differences in the range of UPB and iUPB strategies used and cohabitation status. There was a statistically significant difference in UPB/iUPB strategies used based on cohabitation status,  $F(2, 493) = 3.95, p = 0.02$ , Wilk's  $\Lambda = 0.98$ , partial  $\eta^2 = 0.016$ . However, univariate ANOVAs revealed no significant relationship between cohabitation status and UPB strategies used,  $F(1, 494) = 1.82, p = .18$ , or cohabitation status and iUPB strategies used,  $F(1, 494) = 3.38, p = .07$ .

## **Structural Equation Model of Reconciliatory UPBs during Temporary Breakups**

The AMOS<sup>®</sup> package (Arbuckle, 2014) was used to conduct structural equation modelling. Maximum likelihood estimation using missing values was used to estimate the significance of the model (Kline, 2015). Model fit and goodness of fit measures provided additional information regarding how well the proposed model fit the sample data. These measures are based on comparative fit values (CFI, GFI, NFI) and/or a root mean square error of approximation (RMSEA) (Tabachnick & Fidell, 2013). Chi-square difference tests were conducted to assess the significance of improvement between the independence model (assuming all variables are independent) and the hypothesized model (Tabachnick & Fidell, 2013). Generally, a model is considered to be a good fit with the data when the model chi-square is significant ( $p < 0.05$ ), the GFI (adjusted goodness of fit) is  $>.95$ , the NFI (normed fit index) is close to  $.95$ , the CFI (comparative fit index) is  $>.90$ , and the RMSEA (the root mean square error of approximation) is either  $<.08$  or  $<.05$  (Kline, 2015; Peugh & Feldon, 2020; Xia & Yang, 2019).

### ***Research Question 10***

Do RGPT variables (i.e., goal-linking, rumination, breakup distress, self-efficacy, and rationalization) partially mediate the relationship between a greater range of iUPBs, lower perceived quality of alternatives, greater emotion regulation difficulties, greater anxious attachment, and a greater range of post-breakup UPBs?

This model (see Figure 2 in introduction) was a relatively poor fit with the data,  $X^2(23) = 202.178$ ,  $p < .001$ ,  $CMIN/DF = 8.790$ ,  $CFI = .838$ ,  $GFI = .932$ ,  $NFI = .824$ ,  $RMSEA = .125$  90% CI [.109, .141]. After assessing the regression weights, the direct paths between emotion regulation and post breakup UPB strategies, the perceived

quality of alternatives and post breakup UPB strategies, and self-efficacy and the RGPT latent variable were small and likely contributing to the relatively poor fit of the model. However, there was no justification to remove these paths, and they were retained.

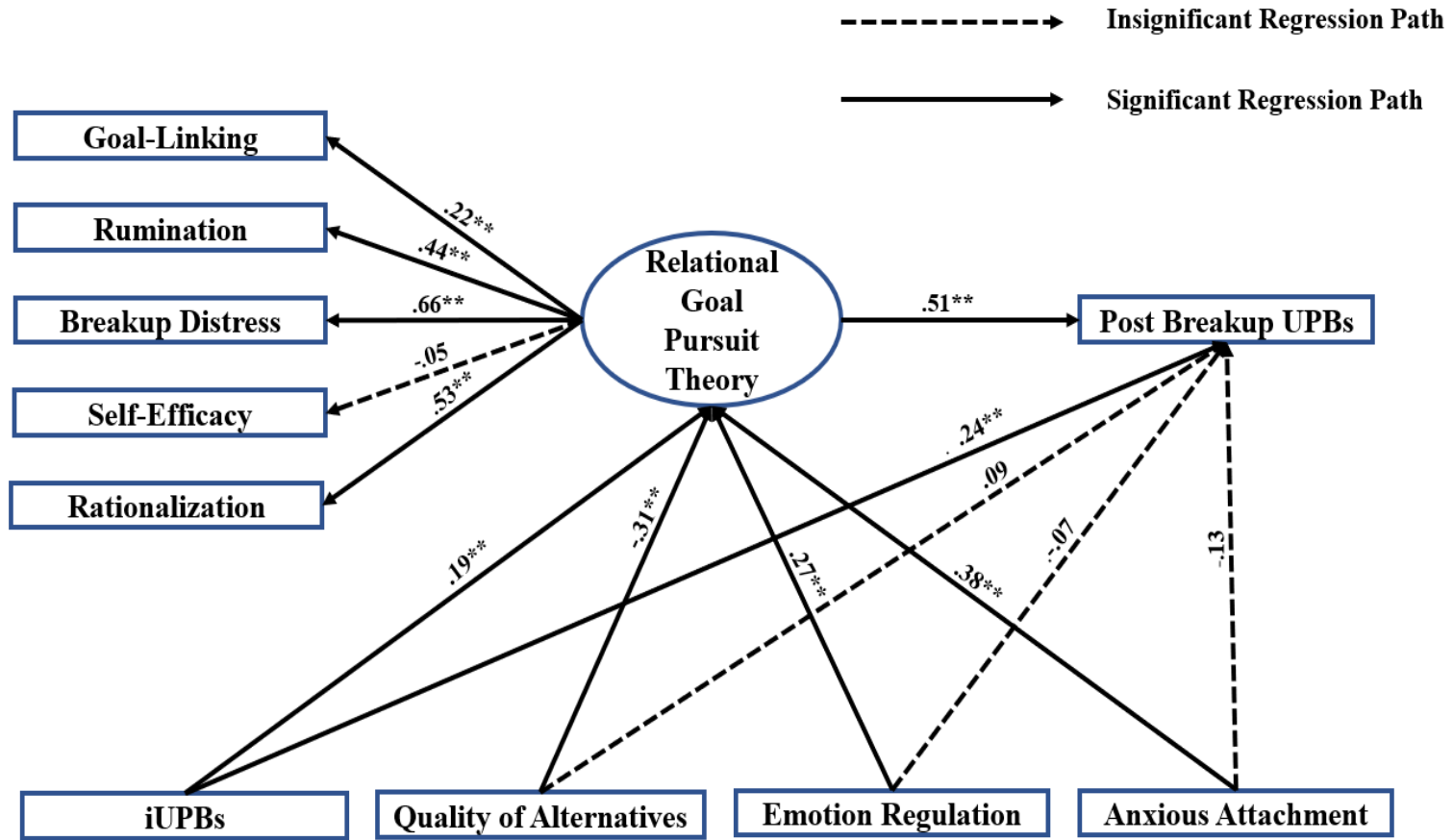
After assessing the modification indices, three unpredicted paths were identified as having the potential to significantly improve model fit: between the error terms of self-efficacy and the latent variable RGPT, between the error terms of the perceived quality of alternatives and rationalization, as well as between the error terms of the perceived quality of alternative and goal-linking. The perceived quality of alternatives variable has not previously been studied to our knowledge in conjunction with other variables in the model. Similarly, rationalization has been examined infrequently in UPB research. Individuals who perceive themselves as having fewer alternative partners may have a greater tendency to engage in rationalization to reconcile or maintain a relationship with a specific partner. They might place an exceptionally high degree of importance on a specific relationship and be far more willing than those who perceive themselves as having many other options to justify their distorted actions or attitudes. Thus, the first path added to the model was between the error terms of perceived quality of alternatives and rationalization. This modification produced a significant improvement in model fit,  $X^2(22) = 135.193$ ,  $p < .001$ ,  $CMIN/DF = 6.145$ ,  $CFI = .898$ ,  $GFI = .952$ ,  $NFI = .882$ ,  $RMSEA = .101$  90% CI [.085, .118].

Although this revised model was a closer fit for the data, modification indices continued to suggest that the addition of a path from the perceived quality of alternatives to goal-linking would improve the model fit. Goal-linking occurs when a higher-order goal, such as happiness, is tied to a specific lower-order goal, such as obtaining a

specific romantic partner. It makes theoretical sense that the perceived number of available alternatives would be associated with one's tendency to engage in goal-linking. For example, if an individual believes only one partner can bring them happiness, they likely will have a greater tendency to link lower and higher-order goals. Ultimately, a path linking the error terms of perceived quality of alternatives and goal-linking was added to the model. After adding this second path, the model was a stronger fit and a good fit with the data,  $X^2(21) = 67.365$ ,  $p < .001$ ,  $CMIN/DF = 3.208$ ,  $CFI = .958$ ,  $GFI = .975$ ,  $NFI = .941$ ,  $RMSEA = .66$  90% CI [.049, .084]. Figure 3 provides a visual representation of the significant and nonsignificant paths between the variables in the final model, and Figure 4 provides information about the significant paths between the error terms, and the addition of two paths to the model.





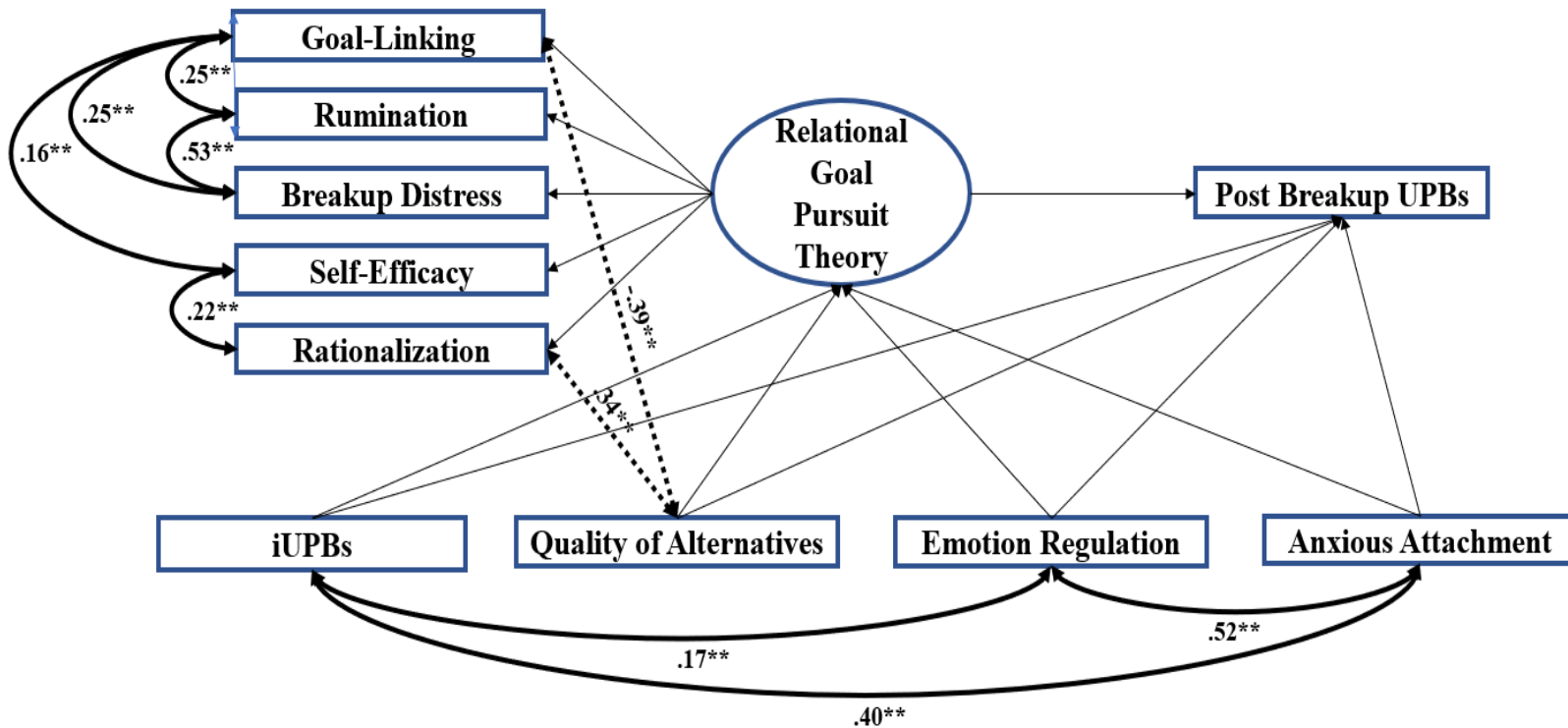
Figure 3. Regression Paths Between Variables in the Final Model of Reconciliatory UPBs.



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

Figure 4. Final Model of Reconciliatory UPBs with Paths Between Error Terms and Added Error Paths.

 Path Between Error Terms  
 Error Paths Added to Original Model



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

Bootstrapping was performed with bias-corrected 95% confidence intervals and 1000 iterations to assess the significance of paths in the model. With four exceptions, the paths in the model were found to be significant: the paths from RGPT to self-efficacy, from emotion regulation to post breakup UPB strategies, from anxious attachment to post breakup UPB strategies and from perceived quality of alternatives to post breakup UPB strategies. The model explained 27.3% of the variance in the use of UPB strategies. The standardized direct effect of RGPT on UPB strategies was .507 90% CI [.317, .861] and was significant ( $p = .002$ ).

Four of five RGPT variables demonstrated a significant direct relationship to the latent variable, including goal-linking, rumination, breakup distress, and rationalization. The result provides partial support for Hypothesis 10. Strong effect sizes were found for rumination, breakup distress, and rationalization and a mild to moderate effect size was found for goal-linking. This provides partial for support for Hypothesis 11. Surprisingly, a weak negative relationship was found between RGPT and self-efficacy. Furthermore, the RGPT latent variable was significantly related to UPB use, which supports the hypothesis that apart from self-efficacy, RGPT variables demonstrated a strong relationship with UPB use.

All four of the independent variables showed significant relationships with RGPT in the model including iUPBs, the quality of alternatives, emotion regulation, and anxious attachment. The relationship between iUPBs and RGPT yielded a mild effect size, whereas the relationships between the perceived quality of alternatives, emotional regulation, anxious attachment, and RGPT yielded a moderate effect size. However, only iUPBs showed a significant direct relationship with UPBs. These findings suggest that the relationships between the perceived quality of alternatives, emotion regulation,

anxious attachment, and UPB use in temporary breakups is fully mediated by RGPT variables. The iUPBs also have a direct relationship with RGPT, suggesting the link between iUPBs and UPBs is partially mediated by the RGPT variables. Thus, Hypothesis 12 is partially supported.

Analyzing relationships between error terms is important to better understand the covariance of these variables outside of the model. Regarding correlations between error terms in the model, all paths tested were found to be significant and are available in Figure 4. Significant relationships were indicated between iUPBs and anxious attachment, between iUPBs and emotion regulation, between the perceived quality of alternatives and goal-linking, between the perceived quality of alternatives and rationalization, between emotion regulation and anxious attachment, between goal-linking and rumination, between goal-linking and breakup distress, between goal-linking and self-efficacy, between breakup distress and rumination, and between rationalization and self-efficacy.

Indirect effects of the perceived quality of alternatives, anxious attachment, emotion regulation, and iUPBs on UPBs were assessed. Significant indirect effects were indicated between UPB strategies and anxious attachment, the perceived quality of alternatives, emotion regulation, and iUPB strategies through RGPT. The effect sizes of these relationships tended to be moderate, with anxious attachment and perceived quality of alternatives having a larger effect when compared to iUPBs and emotional regulation. The total indirect effects of each predictor are presented in Table 6.

**Table 6. Bootstrapped Total Indirect Effects of Predictors on UPBs**

Indirect Effects on UPBs Through RGPT	B	95% CI	p
iUPBs	.09**	.03 to .21	.001
Perceived Quality of Alternatives	-.16**	-.33 to -.08	.001
Emotion regulation	.14**	.06 to .30	.001
Anxious Attachment	.19**	.10 to .46	.001

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

## **Chapter IV: Discussion**

It has been close to two decades since Palarea and Langhinrichsen-Rohling (1998) created the first inventory of “unwanted pursuit behaviour” in the hopes of better capturing harassment, tracking, and monitoring behaviours outside of the subject legal definition associated with the term “stalking”. Cupach et al. (2000) introduced relational goal pursuit theory (RGPT) as a theoretical basis for understanding UPBs, which has been crucial for developing models of UPBs (e.g., Dardis & Gidycz, 2019; Foshay & O’Sullivan, 2019). This study attempted to better understand UPBs categorized as having reconciliatory intent, meaning these behaviours are used in the hopes of re-establishing a relationship.

The current research intended to obtain a basic understanding of use of UPBs in the context of temporary breakups in relationships. It is unknown whether individuals who ultimately reconcile their relationships engage in a similar frequency/range of UPB use as individuals who break up permanently. The body of UPB research to date assessing permanently dissolved relationships has demonstrated that UPBs are common among couples who do not reconcile their relationship following a breakup. Although this study does not allow for direct comparison between UPB use in permanently versus temporarily dissolved relationships, we have provided insights into UPB use in reconciled relationships.

### **Examining Reconciliatory Unwanted Pursuit Behaviours in Temporary Breakups**

This research indicated that many individuals (61.4%) reported at least one UPB during a temporary breakup, suggesting that UPB use is common among reunited partners. Many of these UPBs occurred in person, including close to one in three

individuals attempting to have a conversation with their ex-partner in person, while more than one in ten individuals endorsed showing up in places they thought their ex-partner might be, and giving their ex-partners items or gifts in person. Subsequently, some aspects of UPB use may be effective in reconciling relationships. It may also be that individuals are unaware they are being targeted by these behaviours. As many of these behaviours (e.g., making fake social media, monitoring a partner's schedule, looking through private emails/messages) may go undetected by the target, it is possible that the individual remains unaware about their use. Another possibility is that some may be afraid or fatigued of their ex-partner and reunite to end the efforts to harass and track them. The current study revealed that individuals who engage in UPBs often use distorted and/or permissive thinking to justify their behaviour. Individuals using UPBs may be eliciting a significant amount of fear in their partner without truly understanding the consequences in order to pressure reunification. Some partners also may view UPB use as a sign their partner cares about them and is the 'one'. Ultimately, more information is needed regarding how targets perceive UPBs used by their ex-partner when reconciliation occurs.

One cannot assume that the same patterns and relationships found in the existing body of UPB research also apply to reconciled relationships. One possibility that was considered in the current study is that individuals who reconcile do so because UPB use is restricted in range and frequency, and thus the breakup period is less turbulent and less conflict-laden. A study (Dardis & Gidycz, 2017) using a college population indicated that 99% of men and 98% of women engaged in at least one minor in-person UPB following a permanent breakup. In our study, a lower rate was found, with 65.6% of men and 74.2% of women reporting engaging in one minor in-person or online UPB

within a temporary breakup. However, consistent differences in UPB use have been found even among permanently dissolved relationships between community and college samples in previous research (e.g., Dutton & Winstead, 2006, De Smet et al., 2011).

This study also intended to further develop and verify the model of UPB use proposed by Dardis and Gidycz (2017). It is therefore important to frame the findings from both studies in the context of their respective populations. Whereas this sample was composed of individuals aged 19 to 38 ( $M = 25.9$  years), Dardis and Gidycz (2017) included only a college-aged population, more than 80% of whom reported being in their first or second year of undergraduate studies. Interestingly, a nonsignificant association was found between age and UPB strategy use or iUPB strategy use in the current study. This finding is important for several reasons. First, emerging adulthood (which has been defined as the ages 18 to 29) has been linked to especially high rates of UPB use (Halper-Meeke, 2013a). It is thought that the turbulence associated with this developmental period makes UPB use particularly likely and represents a maladaptive relational coping strategy. The finding here that UPB use does not drop off after age 30 challenges this notion. This makes sense intuitively, especially if the general population does not necessarily view UPBs, especially less severe ones, as problematic (Muisse et al., 2014). If these behaviours are considered acceptable, perhaps age and experience do not result in more adaptive ways of dealing with relationship turbulence in later life. Instead, UPBs use in emerging adulthood relationships may be consolidated and reinforced for use throughout the lifespan.

A second reason the finding that age and UPB use are unrelated is important is the potential to generalize what we know about UPB use and apply it to other age groups beyond emerging adults. In North America, individuals are increasingly forgoing



settling down with a single partner until much later, if at all (Fry & Parker, 2021). As people are increasingly forgoing serious dating until their thirties or beyond, it may be time to either expand the age range associated with ‘emerging adulthood’ or shift relational research from the domain of the young to the population as a whole.

Third, the lack of association between age and UPBs suggests other variables aside from age are responsible for differences in UPB use between college and community populations, such as the high degree of relationship availability and turnover in college settings, closer living quarters, and more free time than the working population. There may also be a cultural element to college environments that promote the acceptability of UPB use. Future research should examine which variables (e.g., culture, living proximity, relational availability) contribute to the extremely high rate of UPB in college samples. Differences could be a result of varying levels of UPB use within temporary breakups versus permanent breakups. As UPBs have been associated with negative mental health outcomes for the target (Dardis et al., 2019; Nobles et al., 2014), and were found to be associated with increased anxiety and depressive symptoms among users of UPBs in this study, it could be that permanent breakups have a more frequent and wider range of UPB use when compared to temporary breakups.

Another key distinction between our sample and that of Dardis and Gidycz (2017) is the collection of data throughout the pandemic. Most of the breakups reported on by participants in the current study occurred in the context of lockdowns, restrictions, and limited opportunities for social interactions. It is important to be vigilant to the possibility that the pandemic altered “normal” relational behaviour to some extent. For example, individuals reported engaging in fewer sexual encounters throughout the pandemic, both in casual and long-term relationships (Lehmiller et al., 2020).

Concerning the association between COVID-19 and relationship satisfaction, Luetke et al. (2020) found an overall increase in conflict and decreased intimacy among couples. Even the definition of intimacy may have changed for couples, who were more likely to use alternatives to in-person contact, such as sexting, during COVID-19 (Montanaro et al., 2022). The lack of new relationships during the pandemic was observed during the recruitment phase of the current study, ultimately shifting our focus from individuals in new relationships to individuals who had previously broken up with their current relational partner. Therefore, differences in UPB use between this study and the one completed by Dardis and Gidycz (2017) might be attributable, in part, to differences in assessing these behaviours pre-and-post COVID-19.

Although differences in age, college versus community, and pre- vs. post-pandemic were important to consider when comparing this research to the existing body of UPB literature, the key characteristic remains the type of relationship being assessed. It is not unreasonable to expect that the expression of UPBs would differ among individuals who are successful in reconciling with a partner. Given that close to two-thirds of our sample engaged in UPBs and still successfully reconciled with a partner, UPBs clearly do not hinder re-establishing a relationship that has ended. Furthermore, the use of UPBs may be further reinforced for these individuals, potentially seeing this behaviour as crucial to their success in re-establishing a relationship.

### ***Common Unwanted Pursuit Behaviours in Temporary Breakups***

In which behaviours do individuals who ultimately reconcile engage? One prediction was that given the increased amount of time spent online during COVID-19 (Pandya & Lodha, 2021), the majority of UPBs would be exercised online or through other electronic means. However, an increase in online UPBs was not seen here, with

individuals generally endorsing low rates of checking their partner's cell phone history, calling excessively, using passwords to check on him/her, and checking email history. Excessive use of texts was the most common online form of UPB in the study. Meanwhile, four of the top five strategies used either occurred in person or were nonspecific to in-person or online, including showing up to places where they thought the ex-partner might be, giving him/her items in person, asking friends/family for information about him/her, and trying to engage him/her in an in-person conversation. The high prevalence of in-person pursuit is consistent with past literature that has suggested that offline UPB use remains salient despite the surge in technology use among young adults (Dardis & Gidycz, 2017; Lyndon et al., 2011).

UPB use among reconciled partners during COVID-19 remained divided between offline and online behaviours, which is surprising given the increase in online activity during the pandemic (Vargo et al., 2021). The continued use of in-person UPBs, even in the face of pandemic-related measures and lockdowns, suggests that there is an essential in-person component to UPB use. It is indeed possible that online and offline UPBs are used in tandem to re-establish a romantic relationship. For example, an individual may use electronic means to track their partner's location (online UPB), and then follow up to run into their ex-partner "unexpectedly" (in-person UPB).

The appeal of in-person UPBs likely has many facets. They may be considered to be more effective in reuniting with a partner. Indeed, leaving unwanted gifts, running into an ex-partner unexpectedly, and making a dramatic in-person speech or gesture are common tropes in media in which an individual successfully reconciles a relationship. An interesting area of future research could be to assess the perceived efficacy of various, possibly stereotyped, UPB strategies in reuniting with a partner. It is possible

that individuals have a repertoire of UPB strategies that have worked in previous relationships, and that they use in the future. These strategies might be partner-specific, where certain UPBs have previously been shown to be effective in getting a partner to reconcile. These strategies may be developed when the relationship is still intact. For example, an individual may notice that their partner enjoys surprise gifts when the relationship was ongoing, so they may resort to using this as a strategy to reconcile when the relationship falls apart.

In-person pursuit also may provide the pursuer with a greater degree of control over the interaction when compared to online means. Electronic means of communication (e.g., cell phones, computers) permit an individual to allow and restrict the messages they receive. The individual can opt in and out of interaction at any given time which is less possible in person. As a result, in-person methods may be favored over online means simply due to the balance of power in the interaction. Furthermore, individuals who are unable to connect virtually with an ex-partner may resort to in-person methods due to being blocked or “ghosted” via electronic avenues.

Another possibility is that in-person behaviours are more salient in one’s memory and therefore are over represented when individuals are recalling behaviour in breakups that may have occurred several years prior. An individual may be more likely to remember an event such as leaving a gift outside of an ex-partner’s residence as compared to excessive texting or emailing. It would likely be beneficial for future research to measure UPBs as they occur, such as with an event sampling method, in order to limit the potential impact of the salience of the event on the recall of UPBs.

It is important to consider that some of these UPBs may have played a positive role in relationship reconciliation. As opposed to previous research on UPBs in

permanent dissolutions, our sample was successful in reconciling with their ex-partner. It would be beneficial to obtain the perspective of both members of the couple regarding the perception of various UPBs. Perhaps certain behaviours, such as sending gifts or exaggerated expressive of affection, are deemed acceptable or even positively by an ex-partner in certain contexts. Although UPBs have general been considered as universally negative in the literature in permanent dissolutions, we cannot assume this holds true in different relation contexts. Subsequently, examining individual UPB behaviours may provide insights into which ones are actually successful in helping a couple to reconcile.

***Reconciliatory Unwanted Pursuit Behaviours in Temporary Breakups, Mental Health, and Relationship Satisfaction***

The results of the current study strongly suggest that a higher degree of UPB use during a temporary breakup is associated with more current symptoms of anxiety but was unrelated to current depressive symptoms or relationship satisfaction. This is not surprising, as some of the breakups identified in our study occurred several years prior to data collection and may be less relevant to current mental health or satisfaction with a relationship. In this study, the relationship between the number of temporary breakups and depression and perceived relationship satisfaction were stronger than the relationship with anxiety. The negative association between the number of breakups and these markers of individual and relational well-being is consistent with past research suggesting that relationships that have an “on-again-off-again” pattern tend to be turbulent and more prone to abuse and poor mental health outcomes for those involved (Halpern-Meehin et al., 2013b). It is not surprising that frequent breakups and reconciliations are associated with feelings of hopelessness and apathy about the specific relationship. These relationships have been previously characterized as having extreme

highs (leading to reconciliation), along with extreme lows (Halpern-Meekin et al., 2013b). These individuals lack stability, possibly because problems leading to the breakup were not effectively resolved.

It is important to note that although we did find relationships between UPB use and the number of past breakups and well-being, individuals in our sample generally reported very low levels of anxiety and depression, and they were generally satisfied with their relationships. Therefore, it is essential that the role of UPBs in mental health and relational well-being is not overstated. It is even possible that certain UPBs are associated with positive well-being or relational satisfaction. For example, an individual who looks through their partner's phone and finds no evidence of cheating may feel better about their relationship.

There are important implications to the finding that UPB use is high even among partners who reconcile. UPBs certainly appear to have a purpose in successful relational pursuit, but what is the cost? The findings from the current study suggest that individuals with more breakups experience greater insecurity about the relationship, its prospects for survival, and ultimately more symptoms of depression, anxiety, and less relational satisfaction. Why is this the case? There is likely a degree of hopelessness among couples who frequently separate but cannot move on. Furthermore, behaviours aimed at controlling a partner may become ingrained in the relationship, such that tracking and monitoring become a hallmark of the relationship. As breakups in these relationships are not permanent, there may be a degree of learned helplessness in trying to leave the relationship. This is corroborated by a greater increase in depressive symptoms based on the number of temporary breakups.

What do these findings mean at a societal level? Challenging the notion that frequent breakups are a healthy or normal part of a relationship is essential. Relationships that occur on popular sitcoms (e.g., *Friends*, *The Big Bang Theory*) often involve characters who frequently break up and reunite. The final reunification is often framed as successful as a result of the trials and tribulations they have been through and a resolution of all obstacles and problems. In contrast, our results suggest that there is a positive association between the number of breakups in a relationship and negative adjustment (e.g., higher anxiety and depression, lower relationship satisfaction), and there are likely several unhealthy patterns of interactions built into these relationships. One area of future exploration is whether the impact of successive breakups remains long-term. For example, do mental health and relational outcomes improve after a prolonged period without a breakup even among couples who have experienced many temporary separations earlier in their trajectory? Can patterns built during the turbulent period in a relationship be broken by long-term stability? These are vital questions in the pursuit of promoting healthy relationships over the lifespan.

One aspect of well-being that was not assessed in this study was the possibility that some underwent therapy to help manage their use of UPBs following a breakup. Undergoing therapy would certainly have the potential to influence future use of UPBs as well as one's mental health and relationship satisfaction. It will be important for future research to explore the ways in which individuals attempted to receive support (if any) during breakups.

### **Unwanted Pursuit Behaviours within Currently Intact Relationships**

This study intended to provide a coherent operationalization of intact relational UPBs (iUPBs). In the current study, intact relationships refer to relationships that are

currently intact but have previously experienced at least one breakup and reconciliation. We have argued that UPBs exist outside of breakups and are prevalent when relationships are ongoing. It is unclear whether these iUPBs have the same negative relationship as post-breakup UPBs to the mental health and well-being of couples who experience these behaviours. The social contract and range of acceptable behaviours likely differ between partners and ex-partners. It is possible that occasionally asking a partner about a past relationship or calling to check on their whereabouts has no sinister motive.

What do these findings suggest concerning the quality of our romantic relationships? Given that the majority of individuals engaged in at least one iUPB, it appears that there is a degree of normalization involved with iUPBs. From an evolutionary perspective, it makes sense that humans would use strategies to protect their relationships in order to ensure reproductive success. Unfortunately, being protective of a relationship also makes it difficult to end it, especially when the agreement is not mutual. If after a breakup there is an established pattern of tracking and monitoring, this pattern may be reinforced and intensified by the threat of permanent dissolution.

It remains unclear whether iUPBs are setting the stage for UPBs experienced following a first breakup, or if UPBs are typically first used during a breakup and then continued once the relationship has been re-established. A longitudinal design is required to better understand the temporal relationship between iUPBs and UPBs. It also would be beneficial to explore whether individuals use similar types of UPBs within breakups and ongoing relationships. For example, if an individual prefers to monitor an



individual's social media during an ongoing relationship, do they continue to utilize social media following a breakup to pursue the relationship.

### ***Commonly Endorsed Intact Relational Unwanted Pursuit Behaviours***

Results indicated that almost three quarters of individuals reported engaging in at least one UPB in this context (72.3%). The high rate of usage suggests that iUPBs are highly prevalent among emerging adults, especially given the tendency for community samples to report fewer UPBs when compared to college populations (i.e., Lyndon et al., 2011; Tassy & Winstead, 2014). Of the 11 items representing iUPB use, only two were endorsed by less than 10 percent of participants – “I have paid my partner a surprise visit just to see who was with him/her,” and “I have joined in whenever I see my partner talking to a member of the opposite sex.” This rate of occurrence means that tracking and monitoring one's partner is relatively commonplace in ongoing romantic relationships that have previously experienced a breakup. However, because iUPB use was not assessed among couples that have never experienced a dissolution, it is unclear whether the high prevalence rate of iUPBs found in our study reflects normal relational behaviour, or hypervigilance and/or a lack of trust as a result of prior breakups. If a relationship has previously been demonstrated as fragile and prone to dissolution, it is understandable an individual would engage in more strategies to protect it.

Despite this research examining only “minor” or “less-severe” UPB use, there is admittedly a range of subjective severity within iUPB behaviours. In moderation, some of these behaviours could serve a different purpose as opposed to tracking and monitoring. For example, questioning your partner repeatedly about past relationships could be in response to jealousy and insecurity, whereas a one-off question or discussion about relationship history may not necessarily be atypical or harmful. As this is the first

study to operationalize iUPBs, it would be beneficial if future research attempts to better understand which behaviours are associated with greater harm to mental health and relational functioning.

Online monitoring appeared to be common within these intact relationships, with over one in five reporting monitoring their partners' online activity, whereas one in ten participants reported accessing their partners' online accounts without their knowledge. As iUPB use has not been measured outside of the COVID-19 pandemic, it is unclear whether online monitoring is highly endorsed because of fewer activities occurring in-person/fewer opportunities for in-person monitoring or represent a true base rate of this behaviour. Clear violations of in-person privacy were endorsed with the item "I have looked through my partner's drawers, handbags, or pockets (14.5% of the sample)." Similar to post-breakup UPBs, in-person tracking and monitoring still represents a sizeable percentage of overall iUPB use. The low base rate of individuals reporting showing up unexpectedly to see who their partner is with was likely complicated by restrictions regarding in-person visitation and many people working from home due to the pandemic.

Conversations between relational partners that represent excessive monitoring, tracking and jealousy also were commonly reported among the sample. Making negative comments about someone of the opposite sex when brought up by their partner was reported by 16.9% of the sample. Asking partners about previous relationships was noted by 26.9% of participants. Although it may be common to ask about previous relationships in order to better understand a partner's history, preferences, or computability at the onset of a romantic partnership, these behaviours were endorsed within the past month, and most of the relationships were longstanding. Questioning

partners about telephone calls and whereabouts also were endorsed at a high rate. Overall, our participants' reports suggest a high rate of both in-person and online iUPBs. As information was only gathered about behaviours from the past month of the relationship, we can assume these UPBs occur beyond just the onset of a romantic relationship, where trust and knowledge of the other is often less established (Campbell & Stanton, 2019).

What does this say about intact intimate relationships where the majority of individuals reported engaging in tracking and monitoring behaviour? One interpretation is that these behaviours are considered normal in our society (Muise et al., 2014). As noted previously, the media we consume certainly glamorizes these behaviours to a degree (Lippman, 2018). Another interpretation is that individuals are defensive about their relationships and are hypervigilant to threats and other suitors (e.g., Cupach & Spitzberg, 2004). Never before has it been so easy to seek out an alternative partner via electronic means (Castro & Barrada, 2020). Understandably, individuals are more protective of their relationships. For example, sending a single text message to check in on a partner who is out at an unexpected time is reasonable and communicates concern, whereas the behaviour becomes problematic when used in excess. Individuals who are vulnerable to UPB use may simply struggle to understand or accept the line between healthy and compulsive. What is clear is that iUPBs are strongly associated with relational and individual well-being and clarifying the line between healthy and unhealthy relational behaviours is vital.

***Intact Relational Unwanted Pursuit Behaviours and Mental Health and Relationship Satisfaction***

The association between iUPBs and mental health/relationship satisfaction outcomes was supported in the current study. These links make clear that, like post-breakup UPBs (Dardis & Gidycz, 2019; Nobles et al., 2014), iUPBs are associated with poorer mental health and lower relationship satisfaction. Furthermore, as the range of iUPB use increased, so too did reported symptoms of depression and anxiety. Therefore, commonplace behaviours that are to some degree “normalized” in relationships (e.g., monitoring a partner’s online activity) may reduce well-being. This is not surprising, given that the use of iUPBs could signal to the partner that there is low trust in the relationship. Furthermore, there is a significant degree of invasion of privacy associated with iUPBs, inducing feelings that one is being controlled or monitored by their partner, which may increase distress. Individuals who engage in iUPBs may similarly struggle with guilt and/or sadness that they are resorting to UPB use and cannot trust their partner. iUPBs may be a common source of conflict in relationships, which is consistent with the view that relationships that are turbulent and involve frequent breakups are often abusive and associated with poor mental health (Halpern-Meekin, 2013b). Future research could expand on this evidence by exploring the relationship between mental health and different iUPBs in order to determine if certain behaviours are more problematic than others in a relationship. For example, are specific iUPB strategies more strongly associated with anxiety or depression (e.g., tracking a partner online without their knowledge)? Perhaps other strategies, such as repeatedly questioning a partner about past relationship partners, have stronger associations with depression or poorer relationship satisfaction. Finally, it is important to remember that although significant relationships were found between iUPBs and adjustment variables, our sample generally

reported very low levels of anxiety and depression, and they were generally satisfied with their relationships.

### ***Personality Factors and iUPBs***

Higher levels of emotion regulation difficulties and anxious attachment were associated with a greater range of endorsed iUPB strategies. This finding suggests that individuals who engage in a variety of iUPBs in their relationships are more likely to experience less adaptive forms of attachment in relationships (i.e., anxious attachment) as well as greater difficulties regulating their emotions. Emotion regulation and anxious attachment have been previously associated with UPB use following a breakup (Dardis & Gidycz, 2019; Dutton & Winstead, 2006; Tassy & Winstead, 2014). That this finding extends to iUPB use lends credence to the hypothesis that UPBs after a breakup are not limited to relationships that are permanently dissolved. If UPBs are a natural extension of iUPBs, it is expected that the same factors would predict both behaviours.

Theoretically, emotion regulation and anxious attachment represent insecurity in a romantic relationship. Individuals with emotion regulation difficulties would struggle with managing feelings of jealousy and threat that might jeopardize their relationship. Anxious attachment often involves feeling like one's partner is pulling away from them, regardless of reality (Campbell & Marshall, 2011). Furthermore, having an anxious attachment style naturally increases one's hypervigilance about anything that may threaten the relationship, such as meeting someone new (Hazan & Shaver, 1987). It is natural that these feelings are amplified and result in significant distress when a relationship dissolves such that individuals engage in extreme behaviours to protect or re-establish their relationship. Furthermore, these individuals seek reassurance regarding the certainty of the bond with their partner (Campbell & Marshall, 2011). UPBs are a

reaction to a compulsive need for relational security, although the consequences of their UPB use may lead to an actual rift between them and their partner, especially if the UPBs are experienced as harassing or threatening.

Surprisingly, the perceived quality of alternatives was not linked to the use of iUPB strategies in intact relationships. There is preliminary evidence that perceiving one has good quality alternatives to their current relationship partner decreases UPB use following a breakup (Tassy & Winstead, 2014). Regarding iUPB use, it was theorized that individuals who feel like they have no alternatives of similar quality to their current relationship would be more vigilant to any signs of relational threat, which would result in increased tracking/monitoring behaviours. Given that a significant direct effect (Tassy & Winstead) and indirect effect (the current study) were found between perceived quality of partners and post breakup UPBs, it is possible that the lack of relationship between iUPBs and the perceived quality of alternatives highlights differences between UPBs within ongoing relationships and UPBs following a breakup. Individuals within intact relationships, especially long-term ones, may be less aware of alternatives to their current relationship, whereas individuals experiencing a breakup are constantly looking for alternative partners. Given there is no immediate need to find a new romantic partner, the perceived quality of alternative relationships may seem less relevant for iUPB use. Another possibility is that the COVID-19 pandemic limited the possibility for individuals to meet alternative partners in general, thus skewing the relationship between iUPBs and the quality of alternative partners. If individuals cannot go to bars, parties, and other in-person gatherings, alternative relationship partners may be both out of sight and out of mind. In order to feel one has quality alternatives to their current partner, one needs to actually come in contact with other potential mates.

## **Gender and Unwanted Pursuit Behaviour**

Previous research looking at post-breakup UPBs has revealed few or no gender differences in the frequency or range of behaviours endorsed (i.e., De Smet et al., 2015; Lee & O’Sullivan, 2014; Shorey et al., 2015). However, it cannot be assumed that UPB use during temporary breakups and within intact relationships would be unrelated to gender. The analyses of both UPBs during temporary breakups and iUPBs revealed no gender differences. This was true despite findings that young women tend to be more cautious and fearful regarding COVID-19 (Quadros et al., 2021) – which was thought to potentially be reflected in less in-person UPB use.

The current study provides further evidence that the use of less severe UPBs is unrelated to gender, even when the breakup is temporary, or the relationship is ongoing. Future studies of lower severity UPBs need not account for gender (i.e., as a moderator). It also suggests that despite different expectations (e.g., sexual scripts) of genders in romantic relationships, UPBs are used similarly. This is likely related to both partners having a shared understanding about relationship interactions. The strategies that individuals believe are effective in reconciling a relationship (e.g., gathering information, tracking locations, offering gifts, trying to engage with the ex-partner in public) are likely similar regardless of gender. The experience of distress following loss, illogical reasoning when emotions are heightened, and a desire to reconcile a lost relationship also occurs regardless of gender. Subsequently, it would be surprising if these ‘lower severity’ UPBs were strongly associated with a particular gender, as establishing, and maintaining a strong intimate relationship is, for most individuals, a universal experience of the human condition.

It will be important for future research to expand upon these findings to individuals who identify as non-binary or gender fluid. Research to date has mixed results regarding same-gendered partners, with one study revealing that same-gendered partners experience a greater rate of UPBs post-breakup when compared to mixed-gender partners (Spitzberg et al., 2010). In contrast, De Smet et al., (2015) found no significant difference in the amount of UPBs used by same or mixed-gender partners. Instead, the type of strategy differed between the two groups, with same-gendered partners engaging in more confrontational and threatening behaviours (De Smet et al., 2015). This finding may suggest these behaviours are more tolerated in these relationships. Why would this be the case? Research has suggested men are perceived to be physically stronger when compared to women (Fontes, 2007). Subsequently, aggression towards a same-gendered partner may be viewed as the individuals being on a 'level playing field' in terms of physical strength. Thus, it may be that UPBs are different among non-binary individuals because the gender norms that influence heterosexual relationships are less relevant for these individuals. Hollywood tropes involving heterosexual relationships that are so embedded in Western culture (Kumar et al., 2022) may not apply to same-gendered relationships.

### **Cohabitation and Unwanted Pursuit Behaviours**

This study intended to better understand the relationship between cohabitation status and UPBs. We expected that individuals who live together would engage in more UPBs and more iUPBs than those who live apart. These hypotheses were supported when UPBs and iUPBs were combined but not when these connections were evaluated separately. Cohabitation appears to have some role in overall UPB use, but it is not especially strong.



It is important to consider why relatively weak relationships were found between cohabitation and UPBs and iUPBs. One possibility is that environmental factors are less important to the use of UPBs when compared to intrapersonal traits, such as anxious attachment and emotion regulation, or breakup-specific factors, such as breakup distress, goal-linking, and rumination. Given the increasingly long list of variables that have been studied in relation to UPBs (e.g., Brownhalls et al., 2019; De Smet et al., 2011; 2015; Foshay & O'Sullivan, 2019; Lee & O'Sullivan, 2014; Shorey et al., 2015), it is important to differentiate variables that are key to understanding the behaviour and variables that have a more ancillary role. Another possibility is that the current study did not allow for a comprehensive understanding of cohabitation and UPBs. Perhaps the role of cohabitation in UPB use is indirect or situation-specific. For UPBs in temporary breakups, cohabitating may play a greater role if an ex-partner continues to have access to the personal living space, or electronic devices/accounts. Furthermore, cohabitating in a small, shared space where a partner's belongings are easily accessible may naturally preclude greater use of iUPBs. It is not unreasonable to assume that individuals who cohabit are involved in a more intense and committed relationship compared to those who are living apart. Subsequently, cohabiting couples may simply represent more established relationships, which would be harder to dissolve, leading to greater use of UPBs.

### **Proposed Model of Reconciliatory Unwanted Pursuit Behaviours**

A main objective of the current study was to develop a model of reconciliatory-motivated UPBs during temporary breakups. Reconciliatory-motivated UPBs represent more benign behaviours that are aimed at reuniting with a partner (Dardis & Gidycz, 2019). This is in contrast to retaliatorily-motivated UPBs, which are more severe

behaviours aimed at getting revenge on an ex-partner (Dardis & Gidycz, 2019). The majority of research to date has focused on more severe behaviours, and thus a greater body of research has identified important factors underlying their use, such as engaging in interpersonal violence during the relationship, having poor impulse control, and being possessive (e.g., Dardis & Gidycz, 2019; Dutton & Goodman, 2005; Sinclair et al., 2011). Thus, the goal of this study was to better understand less severe, reconciliatory behaviours that have been revealed to have similar negative associations with well-being (Dardis et al., 2019).

### ***Quality of Fit and Modifications to the Model***

After two minor adjustments, a proposed model was deemed to have a good fit with the data and explained over a quarter of the variance in reconciliatory post-breakup UPBs (27.3%). This is consistent with past research in which models explained between 18.1% and 28.1% of minor UPBs depending on gender and offline/online behaviour (Dardis & Gidycz, 2019). The proposed model was composed of variables that previous researchers have linked to the use of UPBs and included RGPT variables (goal-linking, rumination, breakup distress, self-efficacy, and rationalization) (e.g., Cupach et al., 2011; Foshay & O'Sullivan, 2019; Spitzberg et al., 2014) emotional regulation (Reilly & Hines, 2017) and anxious attachment (e.g., Dutton & Winstead, 2006; Tassy & Winstead, 2014). iUPBs have not previously been examined in the UPB literature, although this variable is a modified version of behavioural jealousy, which has previously been linked with UPB use (Logan & Walker, 2009; Tassy & Winstead, 2014). One understudied variable, the perceived quality of alternatives was also included based on evidence of its relationship with UPB use (Tassy & Winstead, 2014).

The addition of new paths in the model results in a switch from a confirmatory to an exploratory approach. Although this limits our ability to make conclusions about our model, it allows us to better understand the relationships between variables in order to make more accurate predictions in future studies. Variables such as the perceived quality of alternatives has rarely been assessed in relation to RGPT variables, and thus it is helpful to know that they share variance outside of their relationship with UPB use.

Overall, after minor modifications, a meaningful model of reconciliatory UPBs in temporary breakups emerged. A greater understanding of relationships between variables that have been less prevalent in relationship research (e.g., goal-linking, rationalization, perceived quality of alternatives), and those that have a larger body of literature (e.g., anxious attachment, emotion regulation, self-efficacy) was expected to position future UPB models to make more accurate path predictions. Models with fewer hypothesized paths often have higher RMSEA values, and the addition of even a few paths can make a poorly fitting model closer to a perfect one.

The two additional paths added to the model were between the error terms of the perceived quality of alternatives and goal-linking, and between the error terms of the perceived quality of alternatives and rationalization. These variables had not previously been assessed together, and thus no predictions were made regarding shared variance outside of our model. Goal-linking represents the elevation of a lower-order goal (e.g., a specific relationship) with a higher-order goal (happiness/fulfillment) (Cupach & Spitzberg, 2004), whereas the perceived quality of alternatives represents the belief that a current relationship is easily replaceable (Rusbult et al., 1998). Individuals who face a breakup with the belief that a certain relationship is essential for their personal happiness/fulfillment, would also likely believe that this specific relationship, which is

given inordinate amounts of importance, is irreplaceable. Thus, the significant relationship between the perceived quality of alternatives and goal-linking outside of UPB use has a theoretical basis.

As previously discussed, rationalization has not been included in the majority of studies assessing RGPT theory and UPB use (Brownhalls et al., 2009). Furthermore, the measure used in the study was only recently developed (Brownhalls et al., 2019), and it is important to establish variables that share variance with rationalization in the context of our UPB model as well as outside of it. Why might we see a strong relationship between the perceived quality of alternatives and rationalization? It may be that when an individual sees a relationship as irreplaceable, they are more susceptible to errors in judgement and distorted cognitive processing. Research has identified changes in cognitive processing, particularly less analytical thinking, and a greater focus on meaning (Seraj et al., 2021). Perhaps alterations in cognitive processing are in part related to beliefs that needs can be met in alternative relationships. For individuals who put a partner on a pedestal, it makes sense that we may also see greater distortions in thinking and more permissive views of one's behaviour.

Paths between error terms in the model were found to contribute significantly to the strong model fit. As predicted, the error terms between anxious attachment and iUPBs, anxious attachment and emotion regulation, and iUPBs and emotion regulation, were significant. As this study represents a preliminary exploration of iUPBs, it is relevant that there is shared variance with emotion regulation and anxious attachment outside of the relationship with UPBs. Given iUPBs are likely engaged in as a result of insecurity and negative affect, it is not surprising that emotion regulation and anxious attachment would be related. iUPBs certainly have the potential to be a relevant

construct in research outside of their contribution to our model of UPBs. As it represents a more comprehensive analogue of behavioural jealousy, iUPBs could certainly be applied to other areas of relationship research.

Significant relationships between error terms of the RGPT variables were also found in the model. The paths between error terms of goal-linking and self-efficacy, self-efficacy and rationalization, goal-linking and rumination, rumination and breakup distress, and goal-linking and breakup distress were significant. The finding that our RGPT variables were strongly related outside of UPBs provides additional evidence for the validity of this theory. Despite originally being conceptualized by Cupach and Spitzberg (2004) as a five-factor theory, studies assessing RGPT rarely include all of them (e.g., De Smet et al., 2011; Foshay & O'Sullivan, 2019). The significant contribution of rationalization indicated in this study suggests that assessing all five factors of RGPT is essential in future research.

In addition, the indirect effects evaluated in our model were crucial to its good fit, whereas direct relationships between predictors (iUPBs, the perceived quality of alternatives, emotion regulation, anxious attachment) and post breakup UPBs played a lesser role. The contrast between the strength of the indirect effects and direct effects was somewhat surprising, especially for variables that have a strong body of evidence to support their direct relationships with UPB use, such as emotion regulation and anxious attachment (e.g., Dardis & Gidycz, 2019; De Smet et al., 2015; Tassy & Winstead, 2014). These findings suggest that the mechanisms underlying UPB use are complex and not yet understood. The importance of indirect effects in the model supports the continued use of structural equation modelling to better understand the complex relationships identified in this study.

## ***The Role of Relational Factors, Personality Traits, and State RGPT Factors in the Model***

According to the final model, UPBs are a product of direct and indirect relationships between relational factors such as iUPBs and the perceived quality of alternatives, personality factors, such as emotion regulation and anxious attachment, and state factors associated with the breakup itself (RGPT variables). The current study has provided a greater understanding of UPB use within a new relational context, temporary breakups. Most importantly, how do these variables come together to explain UPB use? What factors in someone's life predispose them to engage in behaviours that reflect excessive tracking, monitoring, and harassment?

**Relational factors.** The perceived quality of alternatives variable did not have a significant direct effects on UPB use, but, similar to emotion regulation and anxious attachment, a significant indirect relationship was found between perceived quality of alternatives and UPB use through RGPT. This result is noteworthy because few studies have assessed the role of perceived quality of alternatives in UPB use and because it appears that this is an important factor even when individuals ultimately reconcile.

What role might our belief about our ability to obtain a similar or better relationship play in UPB use? The final model suggests that this relationship depends on breakup-related factors associated with RGPT. Individuals who believe that they have little chance of obtaining a relational partner of similar quality will experience a greater amount of breakup distress, as without good alternatives, the ending of their relationship represents a significant threat to relational well-being. Similarly, individuals who feel that they will not be able to find a partner of similar quality will link higher-order goals such as happiness with their ex-partner, which likely results in a greater degree of

rumination about the consequences of the lost relationship (Cupach & Spitzberg, 2004). It also is not surprising that someone who believes they have no better alternative relationship would also engage in distorted thinking about acceptable behaviours (Broyd et al., 2022). Someone is likely more willing to justify and be permissive of harmful relational behaviours if it is in service to obtaining a relationship which has been over-elevated in its importance.

In contrast to the other predictors, iUPBs had a significant direct effect on UPBs in temporary breakups, as well as a significant indirect effect through RGPT. The direct effect is important to establish as this suggests that individuals who are already using UPBs in an ongoing relationship will continue the behaviour when a relationship dissolves. As UPBs have largely been discussed only in the context of relational dissolutions (e.g., Cupach & Spitzberg), this finding suggests that tracking and monitoring is a normal component of ongoing relationships and attempts to minimize the behaviour must start with how individuals act within intact relationships. As iUPBs were the only predictor where both significant indirect and direct effects were found with UPB use following a breakup, this factor will be important to include in any future model of UPB use. This will be important if alternative theoretical models (e.g., implicit theories of relationships) are used to explain UPBs, as the effects of iUPBs in our model do not depend on the RGPT latent variable, as was the case with our other three predictors (the perceived quality of alternatives, emotion regulation, and anxious attachment).

In addition, the significant indirect effect found between iUPBs and UPBs through RGPT suggests that like RGPT may serve to intensify behaviours that were already ongoing in a relationship (iUPBs). We know that individuals who engage in

iUPBs will naturally continue their behaviours during a breakup, but the addition of the indirect effects suggests that individuals may intensify these behaviours if RGPT factors are also elevated. If conditions exist during the breakup that result in an ex-partner being given a disproportionate amount of importance, rumination is intense and persistent, distress is high, and an individual is engaging in irrational thinking, individuals will double down on behaviours that continued from the intact relationship. If an individual checked on their partners whereabouts a few times a day when the relationship was ongoing, an intense breakup may result in the individual checking on their partner several times per day, or they may employ different strategies of pursuit.

**Personality traits.** While difficulties with emotion regulation did not have a significant direct effect on UPB use, significant indirect effects through RGPT were found. The ability to engage in effective emotion regulation is determined by both genetic and environmental factors (Hariri & Holmes, 2006). The intensity of emotion experienced in response to a negative event is often determined from birth (Hariri & Holmes, 2006). Individuals with parents who struggle with emotion regulation are likely to inherit the same temperament (Hariri & Holmes, 2006). However, emotion regulation difficulties are also influenced by maladaptive coping responses, such as avoidance (Ong & Thompson, 2019). Coping strategies are learned throughout life, and are often reinforced by family, peers, teachers, and cultural values (Ong & Thompson, 2019). Individuals who cannot adequately manage negative emotions will subsequently struggle to manage the intensity of a breakup.

What is the significance of emotion regulation having indirect effects on UPB use through RGPT? First, we know that this indirect relationship occurs when UPB use occurs within a permanent breakup (Dardis & Gidycz, 2019) and a temporary breakup



(current study), suggesting that this relationship is consistent regardless of the context of UPBs. Second, although emotion regulation is important to understand UPB use, its relevancy depends on the breakup itself. An individual who has difficulties managing their emotions is not necessarily at greater risk for UPB use unless RGPT variables (goal-linking, rumination, breakup distress, self-efficacy, and rationalization) also are elevated. Finally, significant indirect effects through RGPT with an absence of significant direct effects has positive implications for reducing these behaviours through clinical and educational interventions. If individuals are given tools to manage stressful breakups as they occur (reducing the effect of RGPT variables), we may be able limit the effect of trait emotion regulation difficulties on subsequent UPB use.

Anxious attachment is another trait factor that has consistently been related to UPB use (e.g., Dardis & Gidycz, 2019; De Smet et al., 2015). Similar to emotion regulation, a significant indirect effect, but no direct effect was found for UPB use through RGPT. A moderate effect size was found for this direct relationship with RGPT. Anxious attachment, similar to emotion regulation, is impacted by genetic and early environmental experiences (Erkoreka et al., 2021). Having strong early attachments often results in a secure attachment style, whereas individuals who struggle to securely attach to a caregiver tend to be overbearing and insecure in future relationships (Hazan & Shaver, 1987). Thus, anxious attachment and emotion regulation each make it difficult to feel secure in a relationship and manage negative emotions as they arise.

One of the most unexpected findings in the model was the lack of a significant direct relationship between anxious attachment and UPBs. However, this result is consistent with the model by Dardis and Gidycz (2019) described permanently dissolved relationships. These authors also found that the direct relationship between UPB use and

emotion regulation in this context was not significant. Similar conclusions can be made regarding anxious attachment as with emotion regulation, where it may be possible to limit the association between anxious attachment and UPB use by intervening with breakup specific factors (RGPT). When considering the temporal relationship between anxious attachment and emotional regulation, RGPT variables, and UPB use, the lack of a direct relationship between anxious attachment and emotional regulation on the one hand, and UPB use, on the other hand, can be explained. UPB use appears to reflect the salience of RGPT variables, such as breakup distress and rumination. Individuals who have an anxious attachment style and have difficulties regulating emotions more intensely link the relationship to happiness and fulfilment, engage in more rumination, experience more distress, and are more likely to engage in distorted or irrational thinking in order to justify their behaviour following a breakup. Thus, the RGPT variables can be considered reflections of anxious attachment and poor emotion regulation. Essentially, individuals enter a relationship with certain dispositions that make them more or less likely to experience high levels of RGPT variables following a breakup, which in turn influences UPB use.

**State RGPT factors.** The relative contribution of RGPT variables to UPB use has been inconsistent in the literature to date (e.g., Cupach et al., 2011, Dardis & Gidycz, 2019, Tassy & Winstead, 2014). It is possible that some RGPT variables are more relevant than others depending on the context of use. It is also likely that the inconsistent operationalization of UPBs plays a role as well. Perhaps the relevance of RGPT factors is dependent on the severity of UPBs being assessed. Indeed, there is already evidence that different factors underly severe versus more benign UPBs (Dardis & Gidycz, 2019).

**Goal-linking.** Goal-linking was the first RGPT variable assessed in the study. Previous research using this variable found inconsistent associations with UPB use (Brownhalls et al., 2019; Cupach et al., 2011; Foshay & O’Sullivan, 2019). However, goal-linking made a mild to moderate contribution to the model. Theoretically, goal-linking is key to the experience of ruminative distress and persistent pursuit. Goal-linking puts a specific relationship on a pedestal, which subsequently increases the intensity and stakes associated with re-establishing the relationship. However, with instant and easy access to a large group of potential partners, why do people get stuck on one individual? Goal-linking is believed to be crucial to this process and appears to contribute more to UPB use within temporary breakups than permanent dissolutions (e.g., Foshay & O’Sullivan, 2019). Perhaps successful reunification is due to the increased effort to re-establish the relationship via goal-linking. It is possible that goal-linking may actually lead to more adaptive ways of re-establishing a relationship. Future research could examine the potential relational and personal benefits of goal-linking, whether it be concerning self-improvement, greater empathy towards one’s ex-partner, or developing better coping strategies. Indeed, it is important not to assume that all RGPT factors result in negative outcomes.

**Rumination.** Rumination is the second RGPT factor that was assessed in this study. Similar to previous research (e.g., Cupach et al., 2011; Foshay & O’Sullivan, 2019), rumination emerged as a strong predictor of UPBs with a moderate direct relationship with RGPT. Rumination appears to be fundamental to the continued pursuit, as it evokes continuous distress and motivation to rekindle a relationship. Without rumination, we might expect UPB use to quickly decrease over time. It is not surprising that rumination has been related to UPB use in relationships with permanent dissolutions

and temporary breakups. In permanent breakups, rumination likely results in individuals continuing their pursuit even in the face of multiple rejections. In temporary breakups, rumination is likely important for the individual to persist in their pursuit and may increase motivation to try new strategies.

The bivariate correlations showed a moderate degree of overlap between rumination and breakup distress. Therefore, it is essential to understand how these two variables work together to drive UPB use. The experience of significant distress occurs at the onset of a breakup, while rumination continues the experience of negative emotion (Cupach & Spitzberg, 2004). Therefore, the variables work together as a reciprocal process, where rumination stemming from the initial breakup distress leads to residual negative affect, which then leads to continued rumination. For many individuals, breakups involve intense, but brief levels of negative emotion (Davis et al., 2012). Because these variables have been found consistently to have strong, independent relationships with UPB use (e.g., Cupach et al., 2011; Dardis & Gidycz, 2019; Foshay & O’Sullivan, 2019), both should continue to be included in RGPT.

***Breakup Distress.*** Breakup distress was the strongest of the RGPT variables in the UPB final model. This result may be related to use of a comprehensive, previously validated measure of breakup distress (The Breakup Distress Scale, Field et al., 2009), which had a significant relationship with UPB use in prior research (Foshay & O’Sullivan, 2019). Given challenges and inconsistencies in operationalizing RGPT constructs, it is essential that future research use validated measures in order to accurately capture the behaviour.

Why is breakup distress the most important factor among all five RGPT variables tested in this model? According to RGPT theory (Cupach & Spitzberg, 2004),

negative affect is present at the onset of the breakup and continues to occur after attempts to re-establish the relationship are unsuccessful. Therefore, the role RGPT factors play in promoting UPB use after a breakup is likely related to the severity of the emotion experienced both at the time of the breakup, and throughout the course of UPB use. Spitzberg et al. (2011) suggest that when there is a long duration of pursuit, different RGPT factors may have more relevance at any particular point in time. Breakup distress is important at the onset of a breakup, as well as following continued rejection of attempts to reconcile the relationship (Spitzberg et al., 2011). Similar to a trauma response, severe emotion following a breakup likely promotes changes in beliefs about the world (rationalization). Although according to the *Diagnostic and Statistical Manuals for Mental Disorders, 5th Edition* (DSM-V; American Psychiatric Association, 2013) a breakup does not constitute a traumatic event, many of these individuals are likely experiencing adjustment disorders which can evoke a similar effect on memory and emotional experience (Maercker & Lorenz, 2019).

For many individuals who have a significant stake in a relationship, especially young adults, a breakup with a long-term partner may be the most emotionally salient experience of their lives. Perhaps the level of emotion experienced during a breakup is associated with the experience of fragmented, distorted memories of the event and those surrounding the ex-partner. That would explain why so many of these individuals trying to re-establish a relationship misinterpret the reaction of their ex-partner to their pursuit. When one is experiencing extremely overwhelming negative emotion, one's memory can easily rewrite the narrative about an encounter (Maercker & Lorenz, 2019). The clear rejection experienced at the grocery store can easily be re-interpreted as 'playing hard to get' when one's memory is overridden with emotion and a drive to reobtain a

relationship. Instead of beliefs that UPBs are mainly rooted in maladaptive personality styles which has inconsistent support in the literature (De Smet et al., 2015), perhaps what is really happening is young individuals, who may feel like this relationship is their only chance at a fulfilling, happy, life, are experiencing a level of emotion that overrides their ability to act in a logical manner.

*Self-efficacy.* Self-efficacy concerning re-establishing a relationship was hypothesized to play an important role in both the overall model and the relationship between the number of past temporary breakups and UPB use. However, self-efficacy was unimportant to these relationships. Reconciliations were associated with greater use of post-breakup UPBs regardless of self-efficacy. Research has revealed that self-efficacy has a modest relationship with UPB use (Brownhalls et al., 2019; Cupach et al., 2011; Foshay & O’Sullivan, 2019; Spitzberg et al., 2014). It was thought that the more times an individual successfully reconciles with a partner, the greater their self-efficacy would be to re-establish the relationship during the next breakup. This increased self-efficacy was expected to translate into more frequent and varied UPB use. However, having either high or low self-efficacy was unrelated to UPB use in the current study.

Previous research has consistently found that self-efficacy loads strongly onto the RGPT latent variable and is strongly correlated with UPB use (Cupach et al., 2011; Foshay & O’Sullivan, 2019). Several possibilities may account for self-efficacy’s lack of contribution to the model in this study. One explanation is that this model is assessing a fundamentally different type of UPB use than has been evaluated in previous research. UPB use during temporary breakups may not require a high level of self-efficacy for the pursuit to continue, as relationship partners may react more positively or ambiguously in response to their ex-partners’ attempts to rekindle the relationship. Through the lens of

RGPT in post-breakup UPBs, self-efficacy's role is to mitigate the impact of consistent rejection or disinterest from the ex-partner, but this same disinterest may not be present for couples who ultimately reconcile their relationships (Cupach & Spitzberg, 2004). This may be especially true for couples who consistently experience temporary breakups, as they both may be aware that it is likely reunification will occur.

A second possibility is regarding the dependent variable in the model, which, unlike similar studies of UPB use, only included less severe UPBs. Previous literature has indicated that the factors underlying UPB use are different depending on whether one is assessing more severe versus less severe pursuit behaviours (Dardis & Gidycz, 2017; 2019). The current model only assessed behaviours that are considered to be less severe "reconciliatory-motivated" UPBs and did not include more severe "retaliatory" UPBs. Perhaps having a high level of self-efficacy that one can reconcile with an ex-partner is more important for the use of these retaliatory-motivated UPBs when compared to the reconciliatory-motivated UPBs.

A third possibility is that the current study assessed all five variables of RGPT in a model of UPB use as was initially proposed by Cupach et al. (2000). This is in contrast to the majority of UPB research which has included only three or four of the five factors (e.g., Cupach et al., 2011; Dardis & Gidycz, 2019; Foshay & O'Sullivan, 2019). It is possible that the variance attributed to self-efficacy within RGPT was shared with new additions to the model, such as rationalization and/or goal-linking, as indicated by correlated error variance for self-efficacy and rationalization and goal-linking. The paths between error terms of self-efficacy and rumination, as well as self-efficacy and breakup distress, were not assessed.

***Rationalization.*** Rationalization had the second strongest relationship with RGPT out of the five variables assessed. This result points to the importance of continuing to include rationalization in future studies assessing RGPT and UPBs. Brownhalls et al. (2019) identified that rationalization is an important factor in RGPT, which was originally proposed by Cupach et al., (2000). These authors also created a measure of rationalization that was further validated and expanded in the current study. Although the current study did not subdivide rationalization into permissiveness and distortions for the sake of model parsimony, it will be important for future research to examine these subscales. Brownhalls et al. (2019) indicated that the distortion subscale explained more variance of UPB use than the permissiveness subscale. Clarifying the important elements of rationalization that are associated with strong UPB use will be essential for improving model fit and parsimony in future research.

Why is rationalization such an important factor in UPB use? Distress following a breakup, even when severe distress is involved, is often brief (Sprecher et al., 1998). Despite our focus on the number of individuals who engage in UPBs following a breakup, most people eventually stop, limit themselves to less severe behaviours, and move on (e.g., Cupach & Spitzberg, 2004; Dardis & Gidycz, 2019; Foshay & O’Sullivan, 2019). There has to be something else besides intense emotion, strong beliefs in one’s ability to re-establish a partner, and rumination that continues to promote behaviours which despite some degree of normalization, are generally extremely disruptive to the lives of both individuals involved as well as other stakeholders (e.g., friends, family, coworkers).

In the previous section addressing breakup distress, changes in beliefs about the world and oneself are common in response to severe and persistent emotional arousal. In



the face of extreme loss and negative affect, individuals with predisposing factors such as an anxious attachment style and emotion regulation difficulties are likely experiencing an adjustment disorder - which falls in the same category as trauma in the DSM-5 (Maercker & Lorenz, 2019). Mental health disorders are often thought to occur via the stress-vulnerability model, where predisposing factors increase the chance one will experience significant dysfunction in response to a stressor. What is protective against this reaction to a stressor for a vulnerable individual is often their social support system. For a vulnerable young adult who has experienced a breakup, not only are they experiencing what is potentially one of the most emotionally salient events of their lives, they are simultaneously losing part or all of their support system. Engaging in UPBs is alienating, not just to one's ex-partner, but to friends, family, and others. Considering how often friends have to 'take sides' following a breakup, an individual engaging in unpredictable and inappropriate behaviour is at a greater risk to lose even more of their support system.

Other areas of research shed light on the possible reasons for the occurrence of rationalization following a breakup. Misinterpretations about one's reactions to a breakup as the most common form of cognitive change among undergraduates who had experienced a distressing breakup (Boelen & Reijntjes, 2009). Recent research has even suggested that changes in cognitive processing are evident even before the breakup (Seraj et al., 2021). Language use between couples on a large social media platform and found that three months prior to the breakup, individuals employed less analytic thinking, and more words associated with meaning and depression (Seraj et al., 2021). These findings held true even when individuals were engaged in non-relationship topics (Seraj et al., 2021). Ultimately, relationship breakups appear to have significant impacts

on cognitive processing, and continued research is needed to understand how these cognitive changes are associated with UPB use.

### **Implications**

This dissertation addressed a gap in the literature by assessing reconciliatory-motivated UPBs within two new relational contexts: ongoing relationships and temporary breakups. It was found that, like breakups in permanently dissolved relationships, these behaviours are used by a majority of young adults in both of these new contexts. The results corroborate the large body of evidence that suggests UPBs are unrelated to gender (e.g., De Smet et al., 2015; Foshay & O’Sullivan, 2019), and there is preliminary evidence that age may be less important in UPBs than previously thought. Cohabitation also was found to be unrelated to UPB use in the study. UPB use, regardless of whether it occurs in an ongoing relationship, temporary breakup, or permanent breakup, appear to be a normative part of intimate relationships. This is not surprising, as having a stable romantic partnership is strongly associated with happiness and life satisfaction (Campbell et al., 2005; Demir, 2010). UPBs are a way for individuals to obtain, protect, and reconcile this important part of the human experience – and thus, use is not limited by relational context or demographic characteristics.

This study found that UPBs are associated with negative adjustment qualities for the individual engaging in UPB use. It was found that UPBs in temporary breakups were associated with greater symptoms of anxiety. iUPBs, as well as the number of previous breakups in an ongoing relationship, were associated with greater symptoms of anxiety and depression, and lower relationship satisfaction. Importantly, these negative adjustment qualities were reported by the individual engaging in UPBs, as the majority of research has focused on how UPBs are related to negative adjustment and coping

strategies for the target. This suggests that, although UPBs are a normative part of intimate relationships, they have a negative influence on both the target and the user. These negative outcomes associated with UPBs in different contexts are particularly important given that the current research assessed “lower severity” reconciliatory UPBs, which are often normalized in society and not believed to be harmful (Muise et al., 2014). However, it is important to consider the possibility that depression, anxiety, and poor relational satisfaction were present before UPB use and that the relationships between these variables are reciprocal. Using ongoing relationships as an example, individuals who are experiencing poor mental health and low relationship satisfaction, for any number of reasons unrelated to UPB use, may engage in iUPBs as a result of this distress. Engaging in iUPBs subsequently worsens the mental health of the user and the relationship quality further deteriorates. Thus, the relationship between adjustment qualities and UPBs, in this scenario, represents a reciprocal cycle which increases in severity over time. Subsequently, research that is able to assess temporal relationships between UPBs and negative adjustment qualities is invaluable.

UPB research has implicated a large number of variables that may be important for understanding this behaviour. As this research has progressed, it has become clear that UPBs following permanent breakups involve complex relationships between various factors and theories. However, it is unclear if these predictors are similarly important for UPB use during temporary breakups. The final model in this study included predictor variables that have been previously associated with post-breakup UPBs in permanently dissolved relationships, such as anxious attachment (e.g., Dutton & Winstead, 2006), the quality of alternatives (e.g., Tassy & Winstead, 2014), and emotion regulation (e.g., Dardis & Gidycz, 2019). This study also included a novel variable, iUPBs, as a

predictor. The results supported the utility of all four variables in our model, however, for all but iUPBs which were found to have significant indirect and direct relationships with UPB use, the role of predictor variables was indirect and mediated through RGPT. What this suggests is although there are certain factors that may increase the odds that an individual to engage in UPBs during a temporary breakup, it is the breakup itself that largely determines whether an individual will engage in UPBs. An individual may be anxiously attached, have poor emotion regulation skills, feel they have few good alternatives to their current relationship, and still not engage in UPBs if variables associated with the breakup itself are not elevated (RGPT). In order to minimize UPB use, it would likely be more effective to help individuals manage the breakup itself, as well as to identify iUPBs that occur within ongoing romantic relationships.

One area that has not been explored is how culture influences UPB use. Future research should examine how cultural attitudes and exposure to different types of media are related to the acceptance and use of UPBs. Many behaviours that are invasive and related to poor mental health outcomes, such as tracking and monitoring social media, excessive testing, and leaving “gifts” for an ex-partner, may be more commonly used in cultures that tolerate or even promote these behaviours. Perhaps cultures that strongly endorse the view that a relationship is something you “win” or “earn” over time, after hard work, result in more UPBs because it could reflect tolerance for efforts to maintain connection no matter what obstacles one faces, even efforts to end a relationship altogether. One does not have to look far to find a program that glorifies the individual who repeatedly tries to “obtain” or reconnect with a desired partner using a series of invasive and/or unwanted reconciliation attempts that escalate in severity and frequency. Identifying differences in media consumption and adherence to the traditional sexual

script between cultures is likely essential to understand these regional and cultural differences.

### *Implications for Theories and Models of UPB Use*

Relational Goal Pursuit Theory (RGPT) has been a longstanding anchor in UPB research, first identified by Cupach et al. (2000) and further expanded by Cupach and Spitzberg (2004). RGPT has never been assessed solely within the reconciliatory pathway of UPB use, or in relation to UPBs within temporary breakups, and thus it was essential to determine its usefulness in predicting these ‘lower-severity’ behaviours, and how they interact with other relevant variables (e.g., personality, relational factors). This study has found that, for temporary breakups, four of five factors (goal-linking, rumination, breakup distress, and rationalization) loaded strongly onto the latent RGPT construct. Subsequently, our RGPT latent variable in our model of reconciliatory UPBs in temporary breakups is much more about negative affect, rumination, and distorted thinking than self-efficacy or one’s tendency to link higher and lower order goals. In addition, the latent RGPT construct was found to mediate the relationships between our predictor variables and UPB use. Subsequently, there is growing evidence that RGPT applies ubiquitously to UPB use, no matter if we are looking at permanent breakups, temporary breakups, or behaviours that occur within currently intact relationships.

Why is RGPT so important for UPB use, regardless of the context? One possibility is that RGPT is a cohesive model that encompasses core beliefs about relationships and the self (goal-linking, self-efficacy), cognitions (rumination, rationalization), and emotional experiences (negative affect) associated with a breakup. It provides significant heuristic value into how these beliefs, thoughts, and emotions originate prior to the breakup. For example, individuals who engage in UPBs experience

distorted cognitions during a breakup, and knowing this enables researchers to hypothesize and explore whether factors prior to the breakup may account for this thinking style. RGPT provides a strong theoretical base for further assessing different predictors and theories of UPB use.

Despite RGPT being assessed in multiple studies of UPBs, certain elements of the theory have yet to be validated. Cupach et al., (2000) suggested that the temporal relationships between these variables are both complex and essential to the theory. In the context of a breakup, negative affect occurs at different times for different reasons. The initial distress associated with the breakup is likely associated with rumination about the lost relationship, and residual distress occurs after repeated failures to reconcile their relationship. As opposed to further confirming which RGPT factors have the strongest associations with UPBs, it will be important to understand (1) when exactly is each factor relevant to UPBs throughout the course of a breakup? and (2) do beliefs, cognitions, and emotions associated with RGPT originate prior to the breakup?

Despite the utility of RGPT, the complexity of UPB suggests that the behaviour may be better explained by using a transtheoretical model. Implicit theory of relationships (Dweck & Leggett, 1988) describes how individuals often adhere to the belief that romantic relationships are 'meant to be' (soulmate theory), or that relationships are to be worked on and improved over time (growth theory). How events are experienced (such as breakups) tends to be influenced by the theory endorsed by the individual (Burnette & Franiuk, 2010), for example, individuals who believe in soulmates may find it more difficult to accept an alternate relationship. Most relationships end up in separation (Larson et al., 2016), whether it be early in the dating relationship, or years into marriage. This is in contrast to the belief held by many that

each person has a ‘soulmate’ they are destined to be with (Franiuk et al., 2012). Implicit theories also may be important for understanding RGPT variables such as rationalization, particularly how implicit beliefs about relationships are related to changes in cognition and the justification for behaviour. In addition, evidence suggests that the type of coping strategy employed following a breakup may change depending on whether one believes in soulmate theory or growth theory (Franiuk et al., 2004). Indeed, emotion-focused coping has been linked to greater UPB use among young adults (Foshay & O’Sullivan, 2019). Soulmate theorists tend to engage in biased processing of their relationship partners (e.g., positive or negative distortions) depending on whether they feel the relationship is a good match (Franiuk et al., 2004). In contrast, growth theorists do not engage in the same level of cognition distortion, and instead try to work out the issues with their partner (Franiuk et al., 2004).

Implicit theories of relationships, then, may be a valuable area of future UPB research. As previously discussed, goal-linking may be a way to operationalize the idea of a ‘soul mate’ (Burnette & Franiuk, 2010). Whether an individual believes in growth or soulmate theories may influence UPB use overall and may help explain why some individuals engage in permissive and distorted thinking to justify UPBs. Furthermore, goal-linking may be a way to measure the extent that one believes in soulmates, given that goal-linking is similar to beliefs espoused by soul-mate theorists (Burnette & Franiuk, 2010). However, goal-linking, as a factor of RGPT, has only been assessed at the time of the breakup. Implicit theories would be able to capture beliefs about the importance of any given relationship prior to dissolution and can also be measured alongside iUPBs within ongoing relationships. Similar to iUPBs, it is essential to measure goal-linking when a relationship is intact so that a better understanding of the

origins of the behaviour can be obtained. People who believe in soul mates may be the same individuals who engage in significant goal-linking during a breakup.

Consistent with implicit theories, experiences of individual and interpersonal growth have been identified among many people who experience a breakup (Kansky & Allen, 2018; Lewandowski & Bizzoco, 2007). Compared to negative outcomes associated with relationship dissolution, the benefits of relationship breakups remain a relatively unexplored area (Kansky & Allen, 2018). Tashiro and Frazier (2003) discovered that some individuals experience greater self-confidence, independence, and emotional stability following a breakup. Interpersonally, benefits were seen in terms of conflict management and communication skills (Hebert & Popadiuk, 2008). What determines whether individuals experience growth from a breakup? Preliminary evidence (Kansky & Allen, 2018) suggests that simply being aware of the reasons the breakup occurred is related to improved interpersonal functioning. As relationships do not always end in a way that allows for clear communication of what went wrong, providing education about common reasons for breakups may help individuals reflect on their own experiences, especially if they did not initiate the breakup.

### ***Implications for Interventions***

Although UPB research is still in its infancy, it is never too early to look ahead to possible clinical and education applications. Clinically, what existing programs could be used to decrease UPB behaviours, and how would this be done? Dialectical behavioural therapy (DBT) is an existing program that was initially developed by Linehan (1993) to help individuals experiencing borderline personality disorder (BPD). However, its usefulness has been expanded to assist individuals with emotion regulation difficulties, interpersonal conflict, and suicidality. DBT borrows from cognitive behavioural therapy



and Eastern influences and includes four modules – mindfulness, interpersonal effectiveness, distress tolerance, and emotion regulation (Linehan, 1993). Each of these modules would likely be beneficial to individuals who engage in UPBs. Although the interpersonal module focuses on building and navigating healthy relationships, there is no information on how to successfully navigate a breakup. Given what we know about UPBs following breakups, DBT skills could be applied to ‘healthy breakups.’ Providing adaptive coping skills to individuals who are vulnerable to UPBs could be used to help individuals move on from a relationship, decreasing rumination and negative affect. Having a section on ‘unhealthy relational behaviours’ that occur during ongoing relationships could also be used to challenge the normalization of unwanted tracking and monitoring among couples. Not only would this assist individuals in identifying their maladaptive behaviours, but it would also help future targets of UPBs to identify these behaviours in their partners. Using iUPBs in an ongoing relationship could be viewed as a ‘warning sign’ for what is to come following a breakup. Being prepared for this eventually will allow the target to be proactive in mitigating negative mental health outcomes resulting from the pursuit.

Distorted and permissive thinking has been identified as a factor in UPB following a breakup. Borrowing from cognitive behavioural therapy (CBT; Beck, 1963), individuals may benefit from learning how to challenge maladaptive or inaccurate thoughts about a relationship. CBT involves learning about the connection between thoughts, feelings, and behaviours. This may be particularly important for individuals who engage in goal-linking, which is essentially a form of catastrophic thinking, where the individual strongly believes they will never be happy/fulfilled without this specific partner. This may involve challenging beliefs about the existence of ‘soulmates’, which

is highly prevalent, particularly in Western cultures (Franiuk et al., 2012). Challenging this belief also may be important for individuals who feel they will not be able to find a similar quality relationship after a breakup, which also may be a form of catastrophic thinking. If more individuals internalized the proverb “there are other fish in the sea”, we would likely see less distress and associated UPBs following a breakup.

Although in an ideal world, all individuals who are predisposed to UPB use would engage in our ‘modified’ version of DBT, this is not practical. Therefore, general education campaigns regarding healthy breakups may be able to reach a larger segment of society. Given the ubiquity and harm related to UPBs, and the increased likelihood these behaviours will become more intense over time, this would likely be money well spent in creating a healthier society. How much negativity, violence, and mental health issues are related to poorly managed breakups? One would be hard-pressed to find an individual who did not experience a ‘horror story’ about an early romantic experience.

The media we consume, and the role models admired by our society have a role to play in UPBs. How many romantic comedies involve an individual getting rejected over and over before successfully wearing down their partner? For younger people, this may be their first exposure to what a healthy reaction is to being rejected by a partner. Redefining what a ‘healthy breakup’ looks like and respecting when an individual is no longer interested in a romantic relationship is crucial to reduce the use of UPBs (although admittedly this would make for a less satisfying movie). The initial breakups experienced by young people may promote the idea that UPBs are normative. Being either the target or perpetrator of UPBs also may comprise important developmental learning experience about intimate relationships. For example, following a relationship

with a significant amount of UPB use, an individual may be more wary in future relationships to avoid these behaviours.

As alluded to previously, the acceptance and implementation of social-emotional learning in schools provide a promising avenue for promoting ‘healthy breakups.’ In recent years, discussions surrounding consent, adaptive coping skills, and respecting diversity have been heavily present in schools (Ng & Bull, 2018). Promoting healthy breakups and identifying warning signs of harmful tracking, harassing, and monitoring behaviour will help instill these important messages from an early age. Given that dating is something that is not exclusive to adults, even lower-stakes relationships among school-aged individuals provide a valuable learning experience for more intense and complicated relationships in adulthood. Given the prevalence and acceptance of UPBs in our culture and media, it is important to provide this education to our youth before unhealthy values and beliefs about relationships take hold. Among university students and young adults, topics of focus could include how the media impacts our idea of what ‘normal’ behaviour entails, the role of RGPT and implicit theories (e.g., soul-mate vs. growth mindset), how to engage in healthy dating in an environment with lots of potential partners and frequent relational turnover, resources on campus and/or in the community to assist with individuals who are a target of or using these behaviours, and how successfully managing a breakup in a healthy manner can promote personal growth and improved self-concept.

A secondary benefit of taking a more developmental perspective to UPB research is the potential for interventions among adolescents in middle school and high school. Challenging the notion that it is “normal” to participate in the continued pursuit of an unwilling partner from a young age will likely be more beneficial than providing

information in adulthood where the individual may have already developed unhealthy relationship beliefs and behaviours. The recent surge of social-emotional learning in North American and European classrooms (Ng & Bull, 2018) represents an opportunity for this topic to be taught universally, in line with evidence suggesting that the majority of individuals participate in such behaviour following a breakup (Foshay & O’Sullivan, 2019). Given the importance of healthy relationships for an adolescent’s well-being and identity, these programs may serve as effective preventative mental health care that may help reduce the ever-increasing rate of mental health issues in adolescents (Chiu et al., 2020). Possible topics that could be covered in this age group include the role of the media in normalizing UPBs, how to deal with negative emotions associated with a breakup, consequences of UPBs for both the user and target, modelling what a ‘healthy breakup’ entails, how to identify UPBs and protect friends who are targeted by these behaviours, as well as how to use remaining social supports (e.g., friends, family) to mitigate the negative effects of a breakup.

### **Limitations**

The current study represents a first exploration of UPB use within intact relationships and during temporary breakups. There are several limitations that need to be acknowledged with regard to method and design, the sample, choice of constructs, measures used, and the pandemic.

#### ***Method and Design Limitations***

The majority of the data in the current study were collected retrospectively. Individuals were asked to report on their most recent breakup with their current partner, which often occurred months and/or years previously. A constant limitation of UPB research is the impact of social desirability and retrospective bias on the reporting of

UPB use. Individuals may have a negative recall bias when reflecting on their partner's UPB use and may underestimate the risk of harm associated with use of the behaviour (Sinclair & Frieze, 2005). Dyadic designs (e.g., Vlisides-Henry et al., 2020) using daily surveys of UPB use through electronic means would likely limit inaccuracies due to recall bias and social desirability. It would also allow for relationship breakups to be assessed in real-time, including a more accurate assessment of the frequency and time spent engaging in various UPB strategies. It will be important for future researchers to develop and refine new ways to collect these data.

Another limitation of the study is the use of a cross-sectional design. Assessing all of our variables simultaneously does not allow us any temporal conclusions about the relationships identified in the study (Carlson & Morrison, 2009). In the current study, we collected data on personality attributes, current and past relational characteristics, current symptoms of anxiety, depression, and relational satisfaction, and information about UPB use within a past temporary breakup and UPB use within ongoing relationships simultaneously. Using the real-time methodology would certainly help clarify how these behaviours originate and develop over time. For example, having individuals provide information on a daily and/or weekly basis following a breakup would allow for a more accurate assessment of UPB use as it occurs. Participants could complete a checklist asking whether they engaged in a specific UPB, and for what duration. The mental health/relationship satisfaction of participants over time could be examined, as well as whether a reconciliation ultimately occurred. This also would allow for us to better understand whether certain UPBs better predict reconciliation.

Another limitation is the collection of data from only one of the relationship partners about UPB use. The accuracy of self-reported UPB use may be improved if we

recruited couples as opposed to individuals. Recruiting couples also would allow for assessing whether UPBs are used by both partners following a breakup. Especially when a reconciliation ultimately occurs, it may be that both individuals have engaged in tracking and monitoring the other in order to re-establish the relationship. Understanding how the target of UPBs responds and perceives their ex-partner's behaviour would also allow for a more complete understanding of the effects of UPBs on the well-being of both partners and the relationship in general.

A final method and design limitation is the potential influence of order effects on our data. Order effects are introduced when answering certain items primes one's answers to subsequent items (Suchman & Presser, 1981). For example, placing items related to a breakup prior may result in mood changes that influence later questions about mental health. Given measures were not randomized, it was not possible to control for possible order effects.

### ***Sample Limitations***

A lack of data on non-heterosexual couples and gender-diverse individuals are a significant limitation of the current research. To date, there is little information on how gender diverse and/or individuals in non-heterosexual relationships also use UPB use. There is some evidence that fundamental differences exist in UPB use between same sex couples and mixed sex couples (Spitzberg et al., 2010), although it will be important that these groups be represented in future UPB research in order to better understand how and why these differences may emerge. Despite extensive crowdsourcing and participant screening, the current study was unable to obtain a large enough sample of members of these underrepresented groups, partly due to the large sample size required for structural

equation modelling. As such, the final sample of participants only included those who identified as a man or a woman and were in heterosexual relationships.

A second sample limitation is regarding a lack of diversity in terms of ethnic and cultural groups. The data collected on UPBs has almost entirely been from university populations in North America. Subsequently, we are unable to generalize about how UPBs are used among different cultural groups. It will be important to understand how UPB use presents in collectivist cultures or those that promote arranged marriages. For example, a recent study from India (Razaei, 2021) found that unlike a study of North American couples (Tassy & Winstead), the quality of perceived alternatives was not associated with UPB use. Perhaps this is related to having less control over one's romantic partner or related to societal values about divorce or breakups. UPBs also may differ among cultures where there is less gender equality. For example, in societies where women are not allowed or discouraged from going out in public alone, we may see significant differences in UPB use between genders. As our sample is primarily Caucasian, it also will be important that future samples obtain representative ethnic diversity.

A third sample limitation is that the current study only assessed iUPBs among participants who had previously experienced a breakup. Thus, the presence of UPB use seen in the relationship may be a product of learned behaviour that occurred during the previous breakup. In future research, it would be beneficial to include a sample of participants who have never experienced a breakup. The strong relationship between iUPB and UPBs in a temporary breakup may have in part occurred because these individuals have already learned the behaviours are effective in retaining a relationship, and thus use continues following reunification.

### *Constructs and Measures*

Although most of the measures showed good internal consistencies, the iUPB and UPB strategy variables demonstrated only adequate reliability. As UPB strategies were the dependent variable in the study, the amount of variance that could be accounted for was moderately capped, and thus our final model was limited in terms of how much of the behaviour can be explained. UPB strategy variables also were unable to control for the length of each breakup when assessing UPBs. Our frequency variable asked participants how often they engaged in a behaviour per week, whereas our strategy variable only indicated whether the individual engaged in the behaviour at any point during the breakup. Furthermore, the frequency of UPB and iUPB use variables had to be dropped entirely as a result of poor internal consistencies. This lack of cohesion in these two variables was largely a result of widely different reports of use across behaviours in the inventory. For example, many individuals reported ‘excessive texting’ in the double and even triple digits per week, while other behaviours tended to be more one-off (e.g., leaving presents). If a frequency variable is included in future UPB research, it will be important to find a way to weigh the different behaviours so extreme outliers do not occur. A dyadic study may be able to capture the behaviour more accurately, and perhaps measure the time allotted to each activity as opposed to how often the behaviour is used. This study also combined cyber and in-person UPBs, which may have been a factor in lower-than-expected internal consistencies. As UPB inventories are essentially behavioural checklists, it has been an ongoing issue in this area to create a meaningful inventory with appropriate validity and reliability.

Furthermore, the current study only assessed UPBs used during the most recent breakup in the relationship. Many of the participants in the study reported experiencing



several breakups with their current partners. Limiting data collection to the most recent breakup may allow for better accuracy in recalling behaviour, but it limits our view of UPBs to a single breakup. Using longitudinal methods to explore how UPBs are used in successive breakups among participants would allow for a more comprehensive view of the behaviour. The initial procedure for this study intended for multiple waves of data collection which would allow for UPB use to be observed over the course of a relationship. In contrast, data collection in the current study occurred at a single point in time, which limits our analyses and conclusions.

A third limitation concerning constructs and measures is the decision to retain self-efficacy despite its relatively poor fit in the model. This decision was made as a result of the longstanding importance of self-efficacy to both RGPT and UPBs. This allowed for an in-depth discussion of possible reasons that self-efficacy appears to be relatively important for temporary breakups while playing an important role in permanent breakups (e.g., Cupach et al., 2011; Foshay & O'Sullivan, 2019). However, the theoretical benefits were gained at the expense of some degree of model fit. Despite our final model showing a strong fit, it is likely that it would be improved further with the removal of self-efficacy, especially in regard to parsimony.

A final limitation regarding constructs and measures is the decision to not include initiator status in the final model. Initiator status, that is who initiated the breakup (self, ex-partner, or mutual), has often been assessed in the literature on post-breakup UPBs (e.g., Cupach et al., 2011; Dardis & Gidycz, 2017; 2015; Spitzberg et al., 2014; Tassy & Winstead, 2014). Multiple studies have identified meaningful relationships between initiator status and UPBs (e.g., Dardis & Gidycz, 2017; De Smet et al., 2011). These researchers have suggested that being broken up with is related to

the rejected individual experiencing less control over the ending of the relationship and a greater desire for reconciliation (Dardis & Gidycz, 2017; De Smet et al., 2011).

However, some research has suggested that breakup initiator status is unrelated to post-breakup UPBs (Cupach et al., 2011; Spitzberg et al., 2014; Tassy & Winstead, 2014).

Still, other research has revealed that being the initiator of the breakup is related to the use of more severe post-breakup UPBs (Dardis & Gidycz, 2019).

Regardless of the inconsistent relationship between post breakup UPBs and initiator status in the literature, not including initiator status in our model results in potentially missing out on relevant information regarding how the context of the breakup relates to UPB use. Furthermore, initiator status may have a different role in its relationship with UPB use in temporary breakups and ongoing relationships when compared to permanent dissolutions. It is possible that initiator status is relevant for RGPT variables experienced at the time of the breakup such as the level of distress and self-efficacy. Individuals who were the initiators of the breakup may believe they have a greater chance at re-establishing a relationship when compared to individuals who were broken up with, given that their ex-partner may have wanted to continue the relationship.

### ***Pandemic***

Conducting relationship research that has a significant in-person component is not ideal during a worldwide pandemic. The impact of this context on the data may have been slightly mitigated by delaying data collection until late 2021, although there were still significant in-person restrictions at this time. The lack of new relationships started during the pandemic, along with a less-than-expected number of individuals reporting a recent breakup in their relationship, necessitated significant changes to the methodology of this study. A collection of longitudinal data, as originally intended, may be possible

once the number of new relationships and subsequent breakups returns to pre-pandemic levels.

## **Conclusion**

This study expanded knowledge of UPBs in emerging adulthood by further exploring reconciliatory-motivated UPBs, developing and testing a comprehensive theoretical model, and assessing the use of UPBs in two new relationship contexts: in temporary breakups and ongoing relationships. UPBs were found to be common within these two new contexts, and it was found that significant relationships exist between the use of these behaviours, negative mental health outcomes, and poor relationship satisfaction. The proposed model provided further evidence that reconciliatory-motivated UPB use depends on direct and indirect interactions between relationship factors (intact relational UPBs, the perceived quality of alternatives), personality traits (e.g., emotion regulation, anxious attachment), and breakup-specific factors associated with relational goal pursuit theory (RGPT).

Given the complexity of UPBs, it is likely that additional theories besides RGPT are needed for a comprehensive understanding of these behaviours. For example, implicit theories of relationships may be important to understand cognitions underlying continued UPB use. Understanding how UPBs emerge and persist across the lifespan, as well as why individuals reconcile with a partner after being the target of UPBs are likely important areas of future research. The current study proposed possible educational and clinical interventions that would serve to highlight the harm associated with UPBs, help individuals manage stressful breakups, and provide coping strategies to individuals who are vulnerable to engaging in these behaviours.

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## **Appendices**

### **Appendix A: Recruitment Statements**

#### **Recruitment Statement Screener**

Study: Relational Behaviours Study Screener

A study screening for individuals who may be eligible for future studies involving romantic relationships. The following questions will take approximately 1 minute to complete.

## **Recruitment Statement Main Study**

Study: Understanding Common Relational Behaviours

A study of intimate relationships consisting of a 20-minute survey. Survey questions examine behaviours often used within intimate relationships along with other personality and emotional factors.

## **Appendix B: Consent Forms**

### **Screener Consent Form**

**Study Title:** Relational Behaviours Screener

**Principal Investigators:**

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**Dear Prolific/MTurk User**

**Introduction:** We are screening for individuals who are eligible to participate in research being conducted at the University of New Brunswick in Fredericton, Canada. Those who are eligible will be contacted to participate in future studies. Before you decide to take this screener, you need to understand what the study is for, what risks you might take, and what benefits you might receive. This consent form explains the study.

**Purpose:** We are looking to better understand common behaviours used within the context of romantic relationships.

**Participation Details:** You will be asked to take part in an online survey that will take one minute to complete in order to assess your eligibility for the study.

**Confidentiality:** Information provided is not anonymous, yet it is confidential in that only researchers associated with this study will be able to view your survey responses. All your answers will be confidential, and you may skip any questions you do not wish

to answer. Your worker ID and IP address will be connected to your survey responses to allow for compensation and response screening. We do not have access to any other identifying information (e.g., your name, address).

**Privacy:** Only the researchers will have access to the information you give in the surveys. Prolific will not have access to your survey answers. The consent forms are online and kept separate from the survey and stored on a secure database. No identifying information will be attached to your survey responses; your survey will be given a study number only. Only a summary of the overall results will be shared in possible future presentations and/or publications of the survey data. The website that hosts the survey is on a secure server. All data will be securely stored on a password protected computer in a secure research office for seven years as per ethical process, and then be destroyed in full.

**Risks:** We do not anticipate you to experience any distress from participating in this study. Participation is voluntary and you can withdraw at any point.

**Benefits:** You will receive £0.13 to complete this screener.

This project has been reviewed by the UNB Research Ethics Board and is on file as REB 2020-154.

If you have any questions or concerns about this survey or your rights or treatment as a participant, you may contact the primary researcher, Jeff Foshay ([jfoshay@unb.ca](mailto:jfoshay@unb.ca)), Sandi Byers, ([byers@unb.ca](mailto:byers@unb.ca); 1-506-458-7697), the Chair of the Department of Psychology or Dr. David Coleman ([dcoleman@unb.ca](mailto:dcoleman@unb.ca); 1-506-451-6977), the Chair of the Research Ethics Board of the University of New Brunswick with any questions or concerns that you may have.



A summary of the findings will be available to those who would like to see them on our lab website at <http://www.sexmeetsrelationships.com/>. Thank you so much for your help!

Jeff Foshay

Lucia O'Sullivan, PhD

Department of Psychology

University of New Brunswick

By clicking the "I agree" button at the bottom of this page I am agreeing to the following statement: I have read the above description and volunteer to participate in this study. I understand that I will not be compensated if I respond in a way that indicates I am not paying attention or that I do not understand the questions. I understand that I can decide to discontinue my participation or not to provide any personal information at any time without question and without penalty.

- I agree
- I disagree

## **Main Study Consent Form**

### **Understanding Common Relational Behaviours**

#### **Principal Investigators:**

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#### **Dear Prolific/MTurk User:**

**Introduction:** You are invited to participate in a survey examining common behaviours in romantic relationships, specifically during breaks or 'churning episodes'. This study hopes to better understand how these common relational behaviours emerge and whether they are associated with poorer relationship satisfaction and mental health. In this survey, you will be asked to answer descriptive, behavioural, and emotional questions related to your current intimate relationship.

**Participation Details:** Participants who are still in the dating relationship described in the "Relational Screener Survey" will be asked to complete an anonymous online survey that will take approximately 20 minutes to complete.

**Confidentiality:** All your answers will be confidential, and you may skip any questions you do not wish to answer. To protect your confidentiality, we will not be asking you to provide your names so there will be no way to identify your responses. We ask that you refrain from including any identifying information in your responses. All data will be

securely stored on a password protected computer in a secure research office for seven years as per ethical process, and then be destroyed in full.

**Privacy:** Only the researchers will have access to the information you give in the surveys. Prolific will not have access to your survey answers. The consent forms are online and kept separate from the survey and stored on a secure database. No identifying information will be attached to your survey responses; your survey will be given a study number only. Only a summary of the overall results will be shared in possible future presentations and/or publications of the survey data. The website that hosts the survey is on a secure server. All data will be securely stored on a password protected computer in a secure research office for seven years as per ethical process, and then be destroyed in full.

**Anonymity:** Information provided is not anonymous, yet it is confidential in that only researchers associated with this study will be able to view your survey responses. This information is tied to a worker ID and IP address to provide compensation and to send follow-up surveys. We do not have access to personal identifying information (e.g., your name, address).

**Withdrawal:** Completion of this questionnaire is completely voluntary, and you may decline to participate or withdraw your participation up until you submit your survey. If you wish to terminate your survey session, you can simply exit the survey by closing the browser without submitting your answers and your responses will be deleted.

Submission of a survey is considered complete once you click on the “submit” button. Because this is a confidential online survey, you cannot withdraw or delete your answers once they have been submitted. Once you submit the survey, this will be taken as an indication of your informed consent.

**Risks:** There are very few risks associated with participating in this survey. Some of the questions on the survey are of a personal nature and it may be stressful to recall certain relationship details, especially if a breakup occurs. Again, completion of the survey is entirely voluntary, and you are free to skip any questions that you do not wish to answer.

**Benefits:** You will receive £2.50 for your participation in this study. A summary of the findings will be available to those who would like to receive them, and available through the UNB Psychology website. If your answers on this survey are inconsistent with the "Relational Screener" questionnaire, the survey will end, and you will not receive payment for this study.

This project has been reviewed by the UNB Research Ethics Board and is on file as REB 2020-154.

If you have any questions or concerns about this survey or your rights or treatment as a participant, you may contact the primary researcher, Jeff Foshay (jfoshay@unb.ca), Sandi Byers, (byers@unb.ca; 1-506-458-7697), the Chair of the Department of Psychology, or Dr. David Coleman (dcoleman@unb.ca; 1-506-451-6977), the Chair of the Research Ethics Board of the University of New Brunswick with any questions or concerns that you may have.

A summary of the findings will be available to those who would like to see them on our lab website at <http://www.sexmeetsrelationships.com/>. Thank you so much for your help!

Jeff Foshay

Lucia O'Sullivan, PhD

Department of Psychology

University of New Brunswick

1. I am 19 years of age or older.
  - Yes
  - No
2. I confirm the answers on the “Relational Screener” questionnaire are accurate.
  - I agree
  - I disagree
3. I confirm I am still in the dating relationship I described on the survey “Relational Screener”
  - I agree
  - I disagree
4. By clicking the “I agree” button at the bottom of this page I am agreeing to the following statement: I have read the above description and agree to participate in this study. I understand that I will not be compensated if I respond in a way that indicates I provided inaccurate responses on the "Relational Screener," am not paying attention or that I do not understand the questions. I understand that I can decide to discontinue my participation or not to provide any personal information at any time without question and without penalty.
  - I agree
  - I disagree

### Appendix C: Screening Questionnaire

1. What is your Prolific/MTurk ID
2. How old are you? \_\_\_\_\_
3. Please describe your relationship status.
  - Single
  - Dating
  - Married
  - Other (specify) \_\_\_\_\_
4. Please describe the current living situation with your partner
  - We live in separate households
  - We live in the same household
  - Other (specify) \_\_\_\_\_
5. How long have you been in your current dating relationship?
  - Less than 2 months
  - 2 to 6 months
  - 6 to 12 months
  - More than 12 months
6. How long did you know your current partner before starting a dating relationship?
  - Less than 1 month
  - 1 to 3 months
  - 3 to 6 months
  - More than 6 months
7. Please describe the nature of your current dating relationship.

- Mixed gender (heterosexual)
- Same gender (gay/lesbian/unlabeled)
- Other (specify) \_\_\_\_\_

8. On average, how much time do you spend with your partner each day (including phone, online text/voice/video chat).

- Less than 1 hour
- 1 to 3 hours
- 3 to 6 hours
- More than 6 hours

9. How many times have you broken up with your current dating partner? \_\_\_\_\_

10. How long ago was your last breakup with your current dating partner (respond with never if you have not broken up).

## Appendix D: Demographic Information

What is your Prolific/MTurk ID

How old are you?

What year were you born?

In what country do you currently live?

(1) Canada

(2) United States

(3) United Kingdom

(4) Other

What is your primary language?

(1) English

(2) Spanish

(3) French

(4) Other (specify) \_\_\_\_\_

Are you fluent in English?

Please describe your gender:

(1) Man

(2) Woman

(3) Transman

(4) Transwoman

(5) Fluid

(6) Other (specify) \_\_\_\_\_

Please describe your relationship status

(1) Single

(2) Dating



(3) Married

(4) Other (Specify)

How would you describe your ethnicity?

(1) Indigenous/Aboriginal

(2) Asian/Southeast Asian

(3) Black/African

(4) White/Caucasian

(5) Latino/Hispanic

(6) Bi-racial/Multi-racial

(7) Other (specify) \_\_\_\_\_

What are your current education and employment circumstances? (Check all that apply)

In school, college or university, part-time

In school, college or university, full-time

Employed part-time

Employed full-time

Unemployed

Receiving social assistance

Other (specify): \_\_\_\_\_

What is the highest level of education that you have completed?

(1) Some grade school

(2) Grade school

(3) Some high school

(4) High school

(5) Some college or technical school

- (6) Technical School
- (7) Some university
- (8) University
- (9) Some graduate school
- (10) Graduate school

What is your sexual orientation?

- (1) Heterosexual
- (2) Lesbian
- (3) Gay
- (4) Bisexual
- (5) Unlabelled
- (6) Questioning
- (7) Asexual
- (8) Don't know
- (9) Other (specify): \_\_\_\_\_

How important are your religious/spiritual beliefs to you in everyday life?

- |            |   |   |   |                |
|------------|---|---|---|----------------|
| 1          | 2 | 3 | 4 | 5              |
| Not at all |   |   |   | Very important |
| important  |   |   |   |                |

## Appendix E: Relationship Information

Please answer the following questions about your current romantic relationship.

1. Please describe your partner's gender.
  - a. Man
  - b. Woman
  - c. Transman
  - d. Transwoman
  - e. Fluid
  - f. Other (specify)
2. How many months have you and your partner been together as a couple (not including time spent broken up)? \_\_\_\_\_
3. Have you previously broken up with your current dating partner?
  - a. Yes
  - b. No
5. How many times have you broken up with your current dating partner? \_\_\_\_\_
6. How many of the breakups with your current dating partner were
  - a. Less than 1 week in length \_\_\_\_
  - b. 1 week to 1 month in length \_\_\_\_
  - c. Over 1 month in length \_\_\_\_
7. How many weeks ago was your most recent breakup with your current dating partner that lasted a minimum of 1 week? If you have never broken up with your current partner for longer than one week, how long ago was your most recent breakup with your current partner regardless of length (e.g., a 2-day breakup would count)?

8. How many different people have you had an intimate relationship with (dated, gone out with) for longer than 2 months? \_\_\_\_\_
9. Please described your current living situation with your dating partner
  - a. We live in the same residence
  - b. We live in different residences
  - c. Other (specify) \_\_\_\_\_

## Appendix F: Post-Breakup Unwanted Pursuit Behaviours

Source: Minor In-Person Pursuit Subscale of Unwanted Pursuit Behaviour Inventory (Palarea & Langhinrichen-Rohling, 1998; Dardis & Gidycz, 2019) & adapted version of Controlling Partners Inventory-Self (CPI-S; Burke et al., 2011; Dardis & Gidycz, 2019)

When someone is having trouble letting go of an ex, they may do certain things to try to get their ex's attention or to try to reconcile the relationship. How many times per week did you do each of the following if you had trouble letting go of your ex?

1. Show up in places where you thought he/she might be.

How many times per week? \_\_\_\_\_

2. Go out of your way to run into him/her "unexpectedly."

How many times per week? \_\_\_\_\_

3. Unexpectedly visit him/her at school/work/some other public place.

How many times per week? \_\_\_\_\_

4. Unexpectedly visit him/her at his/her home.

How many times per week? \_\_\_\_\_

5. Give him/her items (e.g., letters/gifts) in person.

How many times per week? \_\_\_\_\_

6. Wait outside of his/her home/work/school.

How many times per week? \_\_\_\_\_

7. Contact his/her family/friends without his/her permission.

How many times per week? \_\_\_\_\_

8. Ask friends for information about him/her.

How many times per week? \_\_\_\_\_

9. Send/leave unwanted letters/gifts.

How many times per week? \_\_\_\_\_

10. Engage him/her in a conversation in person.

How many times per week? \_\_\_\_\_

When someone is having trouble letting go of an ex, they may participate in behaviours using technology to try to get their ex's attention or to try to reconcile the relationship.

How many times per week did you do each of the following if you had trouble letting go of your ex?

1. Check his/her cell phone call history.

How many times per week? \_\_\_\_\_

2. Make excessive number of cell calls to him/her.

How many times per week? \_\_\_\_\_

3. Use his/her password to check up on him/her.

How many times per week? \_\_\_\_\_

4. Send excessive number of texts to him/her.

How many times per week? \_\_\_\_\_

5. Check his/her sent/received email history.

How many times per week? \_\_\_\_\_

## Appendix G: Intact Relational UPBs

Source: Modified version of Behavioural Jealousy Subscale from Multidimensional Jealousy Scale (Pfeiffer & Wong, 1989)

The following questions relate to common relationship behaviors. Please indicate how often per week on average you engaged in each behavior within your current dating relationship in the past month.

\*Added item

**In the past month**, how often per week did you participate in the following behaviours?

1. I look through my partner's drawers, handbag, or pockets.  
How many times per week? \_\_\_\_\_
2. I call my partner unexpectedly, just to see if he/she is there.  
How many times per week? \_\_\_\_\_
3. I question my partner about previous or present intimate relationships.  
How many times per week? \_\_\_\_\_
4. I say something nasty about someone of the opposite sex if my partner shows an interest in that person.  
How many times per week? \_\_\_\_\_
5. I monitor my partner's daily activities.\*  
How many times per week? \_\_\_\_\_
6. I question my partner about his/her telephone calls.  
How many times per week? \_\_\_\_\_
7. I question my partner about his/her whereabouts.  
How many times per week? \_\_\_\_\_
8. I join in whenever I see my partner talking to a member of the opposite sex.

How many times per week? \_\_\_\_\_

9. I pay my partner a surprise visit just to see who is with him/her.

How many times per week? \_\_\_\_\_

10. I monitor my partner's online activity.\*

How many times per week? \_\_\_\_\_

11. I access my partner's online accounts without their knowledge.\*

How many times per week? \_\_\_\_\_



## Appendix H: Perceived Quality of Alternatives

Source: Satisfaction Subscale of Investment Model Scales (Rusbult, Martz, & Agnew, 1998).

Rate the following items on a scale from 0 (*Do Not Agree at All*) to 3 (*Agree Completely*).

1. My needs for intimacy (sharing personal thoughts, secrets, etc.) could be fulfilled in alternative relationships.
2. My needs for companionship (doing things together, enjoying each other's company, etc.) could be fulfilled in alternative relationships.
3. My sexual needs (holding hands, kissing, etc.) could be fulfilled in alternative relationships.
4. My needs for security (feeling trusting, comfortable in a stable relationship, etc.) could be fulfilled in alternative relationships.
5. My needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.) could be fulfilled in alternative relationships.

Rate the following items on a scale from 0 (*Do Not Agree at All*) to 8 (*Agree Completely*).

6. The people other than my partner with whom I might become involved are very appealing.
7. My alternatives to our relationship are close to ideal (dating another, spending time with friends or on my own, etc.).
8. If I weren't dating my partner, I would do fine; I would find another appealing person to date.

9. My alternatives are attractive to me (dating another, spending time with friends or on my own, etc.).

10. My needs for intimacy, companionship, etc., could easily be fulfilled in an alternative relationship.

## Appendix I: Emotion Regulation

Source: Difficulties in Emotion regulation Scale (DERS; Gratz & Roemer, 2004).

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

1	2	3	4	5
almost never	sometimes	about half the time	most of the time	almost always
(0-10%)	(11-35%)	(36-65%)	(66-90%)	(91-100%)

- 1) I am clear about my feelings.
- 2) I pay attention to how I feel.
- 3) I experience my emotions as overwhelming and out of control.
- 4) I have no idea how I am feeling.
- 5) I have difficulty making sense out of my feelings.
- 6) I am attentive to my feelings.
- 7) I know exactly how I am feeling.
- 8) I care about what I am feeling.
- 9) I am confused about how I feel.
- 10) When I'm upset, I acknowledge my emotions.
- 11) When I'm upset, I become angry with myself for feeling that way.
- 12) When I'm upset, I become embarrassed for feeling that way.
- 13) When I'm upset, I have difficulty getting work done.
- 14) When I'm upset, I become out of control.
- 15) When I'm upset, I believe that I will remain that way for a long time.
- 16) When I'm upset, I believe that I will end up feeling very depressed.
- 17) When I'm upset, I believe that my feelings are valid and important.

- 18) When I'm upset, I have difficulty focusing on other things.
- 19) When I'm upset, I feel out of control.
- 20) When I'm upset, I can still get things done.
- 21) When I'm upset, I feel ashamed at myself for feeling that way.
- 22) When I'm upset, I know that I can find a way to eventually feel better.
- 23) When I'm upset, I feel like I am weak.
- 24) When I'm upset, I feel like I can remain in control of my behaviors.
- 25) When I'm upset, I feel guilty for feeling that way.
- 26) When I'm upset, I have difficulty concentrating.
- 27) When I'm upset, I have difficulty controlling my behaviors.
- 28) When I'm upset, I believe there is nothing I can do to make myself feel better.
- 29) When I'm upset, I become irritated at myself for feeling that way.
- 30) When I'm upset, I start to feel very bad about myself.
- 31) When I'm upset, I believe that wallowing in it is all I can do.
- 32) When I'm upset, I lose control over my behavior.
- 33) When I'm upset, I have difficulty thinking about anything else.
- 34) When I'm upset I take time to figure out what I'm really feeling.
- 35) When I'm upset, it takes me a long time to feel better.
- 36) When I'm upset, my emotions feel overwhelming.

## Appendix J: Anxious Attachment

Source: Attachment Anxiety Subscale of Experiences in Close Relationships Scale  
(Brennen, Clark, & Shaver, 1998)

**Instructions:** The following statements concern how you feel in intimate relationships.

We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Mark your answer using the following rating scale:

Rate the following items on a scale of 1-7 from 1 (*strongly disagree*) to 7 (*strongly agree*)

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that intimate partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
6. I worry a lot about my relationships.
7. When my partner is out of sight, I worry that he or she might become interested in someone else.
8. When I show my feelings for intimate partners, I'm afraid they will not feel the same about me.
9. I rarely worry about my partner leaving me.
10. My intimate partner makes me doubt myself.
11. I do not often worry about being abandoned.

12. I find that my partner(s) don't want to get as close as I would like.
13. Sometimes intimate partners change their feelings about me for no apparent reason.
14. My desire to be very close sometimes scares people away.
15. I'm afraid that once a intimate partner gets to know me, he or she won't like who I really am.
16. It makes me mad that I don't get the affection and support I need from my partner.
17. I worry that I won't measure up to other people.
18. My partner only seems to notice me when I'm angry.

## **Appendix K: Goal-Linking**

Source: Goal-Linking Scale (Cupach et al., 2011)

Rate the following items on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*)

1. I decided this person was “the” person for me.
2. I came to think this person was my ideal partner.
3. I believed no one could “complete” me other than this person.
4. I realized that a different partner would be better for me.
5. I determined that only this person could help me achieve my life’s goals.
6. Having this person in my life seemed essential to becoming who I wanted to become.
7. I felt like our destinies were linked.
8. I realized that this person meant everything to me.

## Appendix L: Rumination

Source: The Event Related Rumination Inventory (Cann et al., 2011)

After an experience like the one you reported as being most stressful or traumatic, people

sometimes, but not always, find themselves having thoughts about their experience even though they don't try to think about it. Indicate for the following items how often, if at all, you had the experiences described during the weeks immediately after the event.

0	1	2	3
<i>Not at All</i>			<i>Often</i>

1. I thought about the event when I did not mean to.
2. Thoughts about the event came to mind and I could not stop thinking about them.
3. Thoughts about the event distracted me or kept me from being able to concentrate.
4. I could not keep images or thoughts about the event from entering my mind.
5. Thoughts, memories, or images of the event came to mind even when I did not want them.
6. Thoughts about the event caused me to relive my experience.
7. Reminders of the event brought back thoughts about my experience.
8. I found myself automatically thinking about what had happened.
9. Other things kept leading me to think about my experience.
10. I tried not to think about the event but could not keep the thoughts from my mind.
11. I thought about whether I could find meaning from my experience.
12. I thought about whether changes in my life have come from dealing with my experience.



13. I forced myself to think about my feelings about my experience.
14. I thought about whether I have learned anything as a result of my experience.
15. I thought about whether the experience has changed my beliefs about the world.
16. I thought about what the experience might mean for my future.
17. I thought about whether my relationships with others have changed following my experience.
18. I forced myself to deal with my feelings about the event.
19. I deliberately thought about how the event had affected me.
20. I thought about the event and tried to understand what happened.

## Appendix M: Breakup Distress

Source: The Breakup Distress Scale (BDS; Field et al., 2009)

Thinking about your breakup, please indicate how much you agree with each of the following statements.

1	2	3	4
<i>Not at all</i>	<i>Once in a while</i>	<i>Sometimes</i>	<i>Very much so</i>

1. I think about this person so much that it's hard for me to do things I normally do.
2. Memories of the person upset me.
3. I feel I cannot accept the breakup I've experienced.
4. I feel drawn to places and things associated with the person.
5. I can't help feeling angry about the breakup.
6. I feel disbelief over what happened.
7. I feel stunned or dazed over what happened.
8. Ever since the breakup it is hard for me to trust people.
9. Ever since the breakup I feel like I have lost the ability to care about other people or I feel distant from people I care about.
10. I have been experiencing pain since the breakup.
11. I go out of my way to avoid reminders of the person.
12. I feel that life is empty without the person.
13. I feel bitter over this breakup.
14. I feel envious of others who have not experienced a breakup like this.
15. I feel lonely a great deal of the time since the breakup.
16. I feel like crying when I think about the person.
- 17.

## **Appendix N: Self-Efficacy**

Source: UPBs Self-Efficacy Scale (Cupach et al., 2011)

Rate the following items on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*)

1. I believed that persistence in trying to re-establish the relationship with my ex-partner would pay off.
2. I was doubtful that my partner would ever get back together with me.
3. I believed I was capable of convincing my partner to get back together.
4. I was confident I could get my ex-partner to reconcile with me.
5. I knew it was unlikely my ex-partner would get back together with me.
6. I felt I would be able to re-establish the relationship I wanted with my ex-partner.
7. I still feel capable of getting back into a relationship with this person.
8. I was unsure that I could persuade my ex-partner to reconcile our relationship

## Appendix O: Rationalization Scale

Source: Adapted from UPBs Rationalization Scale (Brownhalls et al., 2019)

Rate the following items on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*)

\*New item added for this study

After we broke up...

1. I could find reasons to pursue the relationship, even when my identified partner seemed disinterested.
2. Even if she or he appeared upset by it, there would not be any real harm if I kept trying to contact my identified partner.
3. If my identified partner ignored me, it was because she or he was playing hard to get.
4. Being ignored by my identified partner means they want me to find a different way to impress them.\*
5. My identified partner usually has hidden meanings behind what they say to me.\*
6. My identified partner might have been upset by my actions but due to the circumstances it wasn't my fault.
7. Even if my identified partner was upset by my behavior, I was always able to think of a good reason for what I did.
8. If things didn't work out for me, there were good reasons why.
9. If I behaved badly it was because of the way I was feeling (e.g., hurt, angry, sad).
10. It would be okay if I attempted to track intimate information about my identified partner.\*
11. I would use many different strategies if I wanted to get back together with my identified partner.

## Appendix P: Depression

Source: The Depression subscale of the Depression, Anxiety, and Stress Scale 21 (DASS-21; Lovibond & Lovibond, 1995)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers.

Do not spend too much time on any statement.

The rating scale is as follows:

- 0 *Did not apply to me at all*
- 1 *Applied to me to some degree, or some of the time*
- 2 *Applied to me to a considerable degree or a good part of time*
- 3 *Applied to me very much or most of the time*

1. I couldn't seem to experience any positive feeling at all.
2. I found it difficult to work up the initiative to do things.
3. I felt that I had nothing to look forward to.
4. I felt down-hearted and blue.
5. I was unable to become enthusiastic about anything.
6. I felt I wasn't worth much as a person.
7. I felt that life was meaningless.

## Appendix Q: Anxiety

Source: The Anxiety subscale of the Depression, Anxiety, and Stress Scale 21 (DASS-21; Lovibond & Lovibond, 1995)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers.

Do not spend too much time on any statement.

The rating scale is as follows:

*0 Did not apply to me at all*

*1 Applied to me to some degree, or some of the time*

*2 Applied to me to a considerable degree or a good part of time*

*3 Applied to me very much or most of the time*

1. I was awareness of dryness in my mouth.
2. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).
3. I experienced trembling (e.g., in the hands).
4. I was worried about situations in which I might panic and make a fool of myself.
5. I felt I was close to panic.
6. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).
7. I felt scared without any good reason.

## Appendix R: Relationship Satisfaction

Source: Couples Satisfaction Index (CSI-16; Funk & Rogge, 2007).

Please indicate the degree of happiness, all things considered, of your relationship.

	Extremely Unhappy <b>0</b>	Fairly Unhappy <b>1</b>	A Little Unhappy <b>2</b>	Happy <b>3</b>	Very Happy <b>4</b>	Extremely Happy <b>5</b>	Perfect <b>6</b>	
In general, how often do you think that things between you and your partner are going well?			All the time 5	Most of the time 4	More often than not 3	Occa- sionally 2	Rarely 1	Never 0
		Not at all TRUE	A little TRUE	Some- what TRUE	Mostly TRUE	Almost Completely TRUE	Comple- tely TRUE	
Our relationship is strong	0	1	2	3	4	5		
My relationship with my partner makes me happy	0	1	2	3	4	5		
I have a warm and comfortable relationship with my partner	0	1	2	3	4	5		
I really feel like <b><u>part of a team</u></b> with my partner	0	1	2	3	4	5		

	Not at all	A little	Somew hat	Most ly	Almost Completely	Com plete ly
How rewarding is your relationship with your partner?	0	1	2	3	4	5
How well does your partner meet your needs?	0	1	2	3	4	5
To what extent has your relationship met your original expectations?	0	1	2	3	4	5
In general, how satisfied are you with your relationship?	0	1	2	3	4	5

For each of the following items, select the answer that best describes *how you feel*

About your relationship. Base your responses on your first impressions and

Immediate feelings about the item.

INTERESTING	5	4	3	2	1	0	BORING
BAD	0	1	2	3	4	5	GOOD
FULL	5	4	3	2	1	0	EMPTY
STURDY	5	4	3	2	1	0	FRAGILE
DISCOURAGING	0	1	2	3	4	5	HOPEFUL
ENJOYABLE	5	4	3	2	1	0	MISERABLE



### **Appendix S: Social Desirability Scale**

**Source:** Brief Social Desirability Scale (Haghighat, 2007).

Please respond “Yes” or “No” to the following questions:

1. Do you always practice what you preach? (Yes) (No)
2. Do you always keep your promises no matter how inconvenient they may be? (Yes)  
(No)
3. Would you smile at people every time you meet them? (Yes) (No)
4. Would you ever lie to people? (Yes) (No)

### Appendix T: COVID-19 Questionnaire

Source: Adapted from Conway, Woodard, & Zubrod (2020) and Morrow (2020)

Please use the following scale to rate your level of agreement regarding the following questions about the impacts of COVID-19 on your life

1	2	3	4	5	6	7
Very Untrue of me	Untrue of me	Somewh at Untrue of me	Neutral	Somewhat True of me	True of me	Very True of me

1. Thinking about the coronavirus (COVID-19) makes me feel threatened.
2. I am stressed around other people because I worry I'll catch the coronavirus (COVID-19).
3. The coronavirus (COVID-19) outbreak has impacted my psychology health negatively.
4. The quality of my romantic relationship(s) has worsened because of the coronavirus (COVID-19).
5. I have become depressed because of the coronavirus (COVID-19).
6. I am afraid of the coronavirus (COVID-19).

## **Appendix U: Debriefing Form**

### **Research Summary and Contact Information**

**Thank you for completing this study!**

**This page is completely disconnected from your survey.**

**About This Project:** Unwanted pursuit behaviours (UPBs) describe actions such as tracking and monitoring that commonly occur in romantic relationships. Surveys of college and community samples of young adults have found most individuals participate in at least one UPB post-breakup, many occurring online (Lee & O’Sullivan, 2014). This research is the first to assess UPBs within temporary breakups and among couples who are currently together but have previously experienced a breakup. Measuring UPBs throughout the course of a relationship allows for a more accurate understanding of why, when, and how these behaviours emerge.

Existing research shows that being a target of UPBs can have a negative impact on one’s mental health. Depression, anxiety, social withdrawal and isolation, and trauma are common among individuals exposed to UPBs (Dardis & Gidycz, 2019). It is our hope that this research helps increase awareness about the mental health consequences of UPBs. We can then develop education, supports, and strategies to foster healthier attitudes and behaviours in romantic relationships.

**For more information:** A summary of the findings will be available to those who would like to see them on our lab website at <http://www.sexmeetsrelationships.com/>.

If you are interested in learning more about this area of research, you can read the following resources or contact the investigators leading this study for more information.

Cupach, W. R., & Spitzberg, B. H. (2004). *The dark side of relationship pursuit: From attraction to obsession and stalking*. Lawrence Erlbaum Associates.

Dardis, C., & Gidycz, C. (2019). Reconciliation or retaliation? An integrative model of post relationship in-person and cyber unwanted pursuit perpetration among undergraduate men and women. *Psychology of Violence, 9*, 328-339.  
doi:10.1037/vio0000102

Spitzberg, B. H., Cupach, W.R., Hannawa, A. F., & Crowley, J. P. (2014). A preliminary test of a relational goal pursuit theory of obsessive relational intrusion and stalking. *Studies in Communication Sciences, 1-8*.  
doi:10.1016/j.scoms.2014.03.007

**How do I contact the researcher?** You can contact Jeff Foshay ([jfoshay@unb.ca](mailto:jfoshay@unb.ca)) for more information or with your questions and comments about the study. You also may contact Sandi Byers, ([byers@unb.ca](mailto:byers@unb.ca); 1-506-458-7697), the Chair of the Department of Psychology, or Dr. David Coleman ([dcoleman@unb.ca](mailto:dcoleman@unb.ca)), the Chair of the Research Ethics Board of the University of New Brunswick with any questions or concerns that you may have.

# Curriculum Vitae

**Jeffrey E. Foshay**

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## **EDUCATION**

**Ph.D. Candidate, Clinical Psychology** Sept 2015 to Present  
University of New Brunswick  
Thesis Advisor: Dr. Lucia O’Sullivan  
Dissertation Proposal Title: *Understanding reconciliatory unwanted pursuit behaviours following temporary breakups and within intact relationships.*

**B.A. (Honors) Psychology** Jan 2011 to May 2015  
St. Francis Xavier University  
Thesis Advisor: Dr. Christine Lomore  
Thesis Title: *The normative sequence of coping with joint versus individual stressors in romantic relationships.*

## **SELECTED AWARDS AND HONORS**

### **University of New Brunswick**

CPA’s Scientific Affairs Committee Student Research Grant (1500\$)	2021
SSHRC Doctoral Fellowship (20,000\$)	2019-2020
Faculty of Arts PhD Graduate Assistantship (18972\$/year)	2017-2021
Doctoral Tuition Awards	2017-2020
New Brunswick Innovation Foundation Scholarship (7000\$/year)	2017-2020
SSHRC Canada Graduate Scholarship Masters (17,750\$)	2016-2017

### **St. Francis Xavier University**

University Gold and Silver Medals for Highest Average in Faculty of Arts	2015
NSHRF Scotia Scholar Award for Research in the Health Field (5000\$)	2014-2015
STFX Student Summer Internship Award (6000\$)	2013

## **PUBLICATIONS**

### ***Peer-Reviewed Articles***

Foshay, J., & O’Sullivan, L. F. (2020). Home-based sex communication, school coverage of sex, and problems in sexual functioning among adolescents. *Canadian Journal of Human Sexuality, 1*, 25–31.

Foshay, J., & O’Sullivan, L. (2019). Coping and unwanted pursuit behaviours following breakups in young adulthood. *Journal of Relationships Research, 10*, 1–8.

### ***Selected Presentations***

Foshay, J., & O’Sullivan, L.F. (2018, October). *The role of coping in the use of unwanted pursuit behaviours following romantic relationship breakups.* Poster presented at the Annual Meeting of the Canadian Sex Research Forum, Toronto, ON.

Foshay, J., & O'Sullivan, L. F. (2017, July). *What are we telling our sons? Parent-child sex communication predicts greater distress related to sexual functioning for male but not female adolescents*. Brief talk given at the Annual Meeting of the International Academy of Sex Research, Charleston, NC.