

Relationship and Individual Characteristics as Predictors of Unwanted Pursuit

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Abstract To further our understanding of perpetrators of unwanted pursuit following the breakup on an intimate relationship, individual characteristics, *jealousy*, *neuroticism*, and *attachment style*, and relationship variables, *satisfaction*, *investment*, *quality of alternatives*, and *commitment*, were examined as correlates of unwanted pursuit, which was operationalized as *pursuit* and *aggression*. *Anxious attachment*, *behavioral jealousy*, *neuroticism*, and *investment* distinguished between pursuers and non-pursuers. Pursuit and aggression were positively correlated with behavioral jealousy, anxious attachment, neuroticism, and investment. Pursuit was also correlated with commitment and lack of alternatives. In multiple regressions, behavioral jealousy was a unique predictor of pursuit and aggression. Pursuit was also predicted by anxious attachment and aggression was predicted by investment. The roles of attachment, jealousy, and relationship variables in unwanted pursuit are discussed.

Keywords Unwanted pursuit · Investment model · Jealousy · Attachment

When an intimate relationship ends, it is not uncommon for individuals to feel that they have lost something so important that they will go to some length, including unwanted contact or pursuit of their former partners, to re-establish the relationship. Unwanted pursuit and, at its severe end, stalking occur when a person engages in behaviors that she or he knows are not wanted by the former partner. Behaviors of unwanted

pursuit range from mild (unwanted telephone calls or e-mail messages) to moderate (following, unexpected visiting) to serious (verbal and physical threats, acts of violence; Cupach and Spitzberg 2004). The phenomenon of unwanted pursuit or stalking can occur between strangers, such as the stalking of celebrities or an unrequited love interest, but approximately half of pursuit/stalking occurs following the break-up of romantic relationships (Mohandie et al. 2006; Spitzberg and Cupach 2007). Persistence in attempts to re-establish a romantic relationship, even when the pursuer knows that the ex-partner does not want contact, has been labeled by Cupach and Spitzberg (1998) as Obsessive Relational Intrusion (ORI). Although several studies have established links between the pursuer's attachment style and jealousy and unwanted pursuit, the purpose of the current study was to investigate Rusbult's Investment Model (Rusbult et al. 2012), in the context of previously researched or likely individual predictors, as a way of better understanding unwanted pursuit.

Defining Unwanted Pursuit and Stalking

Legal codes defining stalking vary, but they tend to focus on persistence (e.g., repeated behaviors), an "implicit or explicit" threat, and a state of fear in the victim (Tjaden and Thoennes 1998). It is also clear that even "innocuous" actions that are repeated, unexpected, and unwanted can lead to fear in the victim of such behaviors. Social scientists studying unwanted pursuit and stalking have developed a variety of measures to capture this phenomenon. These tend to cover the full range of behaviors, from the unwanted e-mail to physical harm. For this research we used the measures established by Spitzberg and Cupach (1997) of Obsessive Relational Intrusion (ORI), defined as the "pursuit of intimacy with someone who does not want such attentions" (p. 3). This scale has been

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recognized as sampling a wide range of unwanted pursuit behaviors (Davis and Frieze 2000). Efforts to factor analyze the ORI measures have yielded two factors for victims (Spitzberg et al. 1998; Spitzberg and Rhea 1999), which have been labeled *pursuit* and *aggression*. Factor analyses of the ORI for pursuers have been less frequent and have yielded various numbers of factors, but in separate samples of victims and pursuers, Dutton and Winstead (2006) found two factors; in both samples the factors were identifiable as pursuit and aggression. The pursuit items involved unwanted messages, contact, and monitoring but no threats, whereas the aggression items involved threats to property or persons, damaging or stealing property, and restraining or injuring persons.

Although studies focusing exclusively on stalking, by asking about behaviors consistent with legal codes or by asking explicitly about stalking, have found relatively low lifetime prevalence rates (2–13 % for males and 8–32 % for females; Sheridan et al. 2003; Spitzberg and Cupach 2007), measures that include the full range of unwanted pursuit and stalking behaviors have found much higher rates. But pursuers and victims generally do not report the same degree of unwanted pursuit. In two data sets examining responses to a relationship breakup, Davis et al. (2000) reported that 44.5 % and 38.5 % of participants reported engaging in harassment, threats, or vandalism; but Cupach and Spitzberg (2000) found that 78 % of respondents across three samples reported experiencing at least one of the ORI behaviors. Dutton and Winstead (2006) identified participants who had difficulty letting go of a relationship or whose partner had difficulty letting go. In the former group 79 % reported engaging in one or more unwanted pursuit behavior and in the latter group 95.9 % reported having experienced one or more unwanted pursuit behavior. In their study, the amount of unwanted pursuit and aggression reported by pursuers was significantly less than the amount reported by victims.

Although sex differences are regularly found when stalking is the focus of study, in that men are more likely to stalk and women are more likely to be victims of stalking (Cupach and Spitzberg 2004; Tjaden et al. 2000), studies using measures that assess the full range of unwanted pursuit behaviors have tended not to find sex differences (Cupach and Spitzberg 2000; Langhinrichsen-Rohling et al. 2000). Cupach and Spitzberg (2004) found that rates of victimization were higher for women in clinical and forensic samples, but not in college student and general population samples. Dutton and Winstead (2006) found no sex differences among pursuers or victims in reports of pursuit or aggression.

Unwanted pursuit can be a common response, by both women and men, to the breakup of a romantic relationship. Although some unwanted pursuit behaviors are more annoying than threatening, others can be dangerous. Understanding the personal and relationship factors that are related to

unwanted pursuit may help both perpetrators and victims avoid these negative relationship breakup responses.

Explaining Unwanted Pursuit

Attempts to understand perpetration of unwanted pursuit have generally focused on the perpetrator's attachment style and/or jealousy. Attachment Theory has already proven successful in advancing our understanding of unwanted pursuit (Cupach and Spitzberg 2004; Davis et al. 2000; Dutton and Winstead 2006; Dye and Davis 2003). Attachment Theory proposes that, based on interactions as a child with his or her caregiver, the individual establishes a working model of relationships. Empirical studies of adult attachment have confirmed two basic dimensions of attachment: *Anxiety* and *Avoidance*. Individuals who are anxiously attached have feelings of ambivalence or uncertainty about others, including both a desire for relationships and the approval of others coupled with a concern that relationships will not work out. Individuals who are avoidantly attached experience discomfort with personal relationships and have a tendency to keep away from close, intimate relationships. Individuals who are not anxiously or avoidantly attached are secure and comfortable with intimate relationships.

Research has consistently found that anxious attachment is related to unwanted pursuit. Langhinrichsen-Rohling et al. (2000) found that rejected partners who were higher in anxious attachment and emotional dependency reported engaging in more frequent, severe unwanted pursuit behaviors. In two studies, Davis and colleagues found that anxious, but not avoidant, attachment was related to unwanted pursuit (Davis et al. 2000; Dye and Davis 2003). In both studies, while anxious attachment was related to unwanted pursuit in bivariate correlations, it also fit models of indirect prediction. In one study, anxious attachment's connection to unwanted pursuit was mediated by breakup anger-jealousy (Davis et al. 2000), and in another study, it was mediated by need for control and break-up anger (Dye and Davis 2003). Dutton and Winstead (2006) found that anxious, but not avoidant, attachment differentiated between pursuers and non-pursuers. Anxious attachment among pursuers, was also related to the extent of unwanted pursuit behaviors, both pursuit and aggression. In a sample of same-sex partners, anxious attachment was again related to engaging in unwanted pursuit (Derlega et al. 2011). Anxious attachment has been consistently associated with engaging in unwanted pursuit, whereas avoidant attachment has not been found to be related to unwanted pursuit. We predicted that anxious, but not avoidant, attachment would be a predictor of unwanted pursuit.

In addition to anxious attachment, jealousy in the relationship has also proven to be a strong correlate of unwanted pursuit. Davis et al. (2000), Dye and Davis (2003), and

Dutton and Winstead (2006) all found that jealousy, at least at the time of break-up, had a strong relationship with unwanted pursuit. In this study, we asked relationship partners to report on various aspects of jealousy while the relationship was ongoing to examine if jealousy during the relationship was related to unwanted pursuit when the relationship ended. Using the principle that past behavior is a powerful predictor of future behavior, we hypothesized that jealousy during the relationship would be related to unwanted pursuit after the relationship ends.

An unexplored personality characteristic that may be predictive of unwanted pursuit is the higher order personality trait neuroticism, which has been shown to affect many behaviors, including relational behaviors (Robins et al. 2002). Individuals high in neuroticism experience higher levels of negative affect and are more hostile, anxious, and depressed. In a longitudinal study examining the impact of personality on relationships, Robins et al. (2002) found that negative emotionality had strong and consistent effects on relationship variables. Women and men high in negative emotionality at 18 years of age reported lower levels of relationship quality and higher levels of conflict and abuse at ages 21 and 26. Hines and Saudino (2008) found that neuroticism was associated with the use of psychological aggression in romantic relationships for both female and male college students and with the use of physical aggression for men and the use of severe physical aggression for women. Furthermore, in a daily diary study, Bolger and Zuckerman (1995) found that participants high in neuroticism experienced more interpersonal conflicts and were more reactive to conflict reporting higher levels of anger and depression. Participants high in neuroticism also reported more self-controlling and confrontative coping in response to interpersonal conflict. Overall, neuroticism would appear to contribute to aggressive and abusive behaviors in relationships and to negative affect and poor coping in response to interpersonal conflict. Neuroticism is likely to contribute to unwanted pursuit following the breakup of an intimate relationship. The failure to include neuroticism in previous studies may call into question whether more specific dispositional predictors, such as anxious attachment and jealousy, are simply a manifestation of the power of neuroticism in predicting various negative relationship behaviors.

While attachment styles, jealousy, and neuroticism are personal characteristics that belong to the individual and may affect every personal relationship, there are also likely to be characteristics of the relationship itself that contribute to unwanted pursuit. Cupach and Spitzberg (2004) have proposed relational goal pursuit theory as a basis for understanding unwanted pursuit. They argue that the relationship itself is a desired end state and that when achievement of this goal is thwarted, as by the disengaging partner, then the relationship may continue to be pursued as long as the relationship is still

viewed as desirable and the goal is considered obtainable. One way of understanding the degree to which individual's view a relationship as worthy of continued pursuit is Rusbult's Investment Model (Rusbult et al. 2012). The Investment Model proposes that commitment to a relationship is a function of relationship satisfaction (i.e., the experience of reward in the relationship minus costs), relatively few perceived alternatives to the relationship, and investments made in the relationship (Le and Agnew 2003; Rusbult et al. 2012). Although commitment to a relationship is generally regarded as positive, it is likely that those who were committed (satisfied, invested, and perceiving few relationship alternatives) would find it more difficult to disengage from a relationship. Derlega et al. (2011) used all of the elements of the Investment model in predicting unwanted pursuit in same-sex couples. They found that investment was related to engaging in unwanted pursuit. In a sample of heterosexual partners, Dutton and Winstead (2006) included measures of relationship satisfaction and relationship alternatives. They found that among pursuers, perceiving fewer relationship alternatives was related to both pursuit and aggression, but relationship satisfaction was not. They acknowledged, however, that relationship satisfaction may be particularly difficult to measure after the relationship has ended. Given Cupach and Spitzberg's (1998) view that failure to attain a desired relationship goal may fuel unwanted pursuit, it would seem that relationship variables, such as satisfaction, investment, and alternatives, that contribute to one's commitment to a relationship may ironically also contribute to one's unwanted pursuit of that relationship after it has ended.

Most research on unwanted pursuit has focused on relationship-relevant individual characteristics, such as attachment style and jealousy, in seeking an understanding of unwanted pursuit after the breakup of a romantic relationship. This study contributes to the research literature on unwanted pursuit by including both characteristics of the individual (i.e., attachment styles, jealousy, and neuroticism) and characteristics of the relationship itself (i.e., satisfaction, investment, commitment, and perceived quality of alternatives). We hypothesized that anxious attachment (but not avoidant attachment), jealousy, and neuroticism, and the Investment Model variables, satisfaction, investment, fewer relationship alternatives, and commitment, will be positively related to engaging in unwanted pursuit. Among pursuers, these variables will also be related to the amount of unwanted pursuit.

Method

Participants

Participants for the study were recruited from an undergraduate population who had experienced difficulty letting go of a

romantic relationship. In the recruitment they were presented with the following statement: “Often, when relationships are hard to end, a person has a difficult time letting go. If at some point in your life you had a difficult time letting go of a romantic partner after the relationship ended and that relationship lasted at least 2 months, you are eligible for this study.” Among the 277 participants who completed the questionnaire, 24 (8.7 %) were excluded for not meeting the primary study inclusion criteria, which required participants to be in a relationship for at least 2 months and to describe the relationship as having ended at least 4 weeks prior to completing the questionnaire. Eleven participants described pursuit of a same-sex partner and were excluded. Although research on same-sex relationships suggests similarities in the dynamics of unwanted pursuit, Derlega et al. (2011) also found that experience with sexual minority discrimination played a role in unwanted pursuit. With too few same-sex partnerships to compare subsamples, we felt it best to limit our analyses to heterosexual couples. The final sample included 242 participants. Participants were asked to report on this one specific relationship where they had difficulty letting go for all measures involving the nature of the relationship and relationship behaviors. Overall, the majority of participants were female (74.4 %) between the ages of 18 and 21 (79 %). The sample was 61.6 % Caucasian, 20.7 % African American/African descent, 5.4 % Asian/Pacific Islander, 4.5 % Hispanic, and 7.9 % Other. The length of the previous romantic relationship was 2 to 6 months (22.7 %), 6 to 12 months (24.8 %), 1 to 3 years (41.3 %), 3 to 5 years (8.7 %), and 6 to 10 years (2.5 %). The nature of the relationships was dating (58.3 %), long-term committed relationship - not living together (31.8 %), long-term committed relationship - living together (5 %), engaged (4.1 %), and married (0.4 %). Of the 242 participants, 158 (65 %) reported engaging to some extent in unwanted pursuit behavior(s) and 85 (35 %) reported that they “never” engaged in any of the unwanted pursuit behaviors. See Table 1 for frequencies of unwanted pursuit behaviors.

Materials and Procedure

Attachment A short form of the Brennan et al. (1998) Experiences in Close Relationships Scale was used to assess adult attachment style (Wei et al. 2007). All scale items were rated on a 5-point Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Sample items included “I need a lot of reassurance that I am loved by my partner” for Anxiety and “I try to avoid getting too close to my partner” for Avoidance. In several studies, Wei et al. (2007) found Cronbach’s alphas ranging from 0.77 to 0.86 for Anxiety and 0.78 to 0.88 for Avoidance. Short form scores were also found to be highly correlated (0.95) with scores from the

Table 1 Frequency of unwanted pursuit behavior: pursuit and aggression items

Pursuit items	%
Left unwanted gifts	11.6
Left unwanted messages	36.0
Made exaggerated expressions of affection	31.9
Followed the person around	7.5
Watched person	20.3
Intruding uninvited into the person’s interactions	7.1
Invading the person’s personal space	14.0
Involving the person in activities in unwanted ways	5.8
Invading the person’s personal property	5.9
Intruding upon the person’s friends, family, or coworkers	17.6
Monitoring the person or her/his behavior	28.3
Approaching or surprising the person in public places	10.9
Covertly obtaining private information	11.6
Invading the person’s property	3.7
Aggression items	%
Left unwanted threatening messages	4.6
Physically restraining the person	4.6
Engaging in regulatory harassment	2.1
Stealing or damaging valued possessions	3.8
Threatening to hurt yourself	7.9
Threatening others the person cares about	6.6
Verbally threatening the person personally	6.8
Leaving or sending the person threatening objects	1.2
Showing up at places in threatening ways	2.1
Sexually coercing him/her	6.6
Physically threatening the person	3.8
Physically hurting the person	6.6
Kidnapping or physically constraining the person	1.2
Physically endangering the person’s life	1.2

N=242

original longer measure. A stable factor structure and evidence of construct validity were also found (Wei et al. 2007). Higher scores represent higher levels of Anxiety or Avoidance. In the present study, Cronbach’s alphas were 0.64 for Anxiety and 0.73 for Avoidance.

Neuroticism The Goldberg et al. (2006) 10-item Neuroticism Scale developed to measure neuroticism as an aspect of the Big Five personality traits was used. Participants rate phrases such as “Panic easily” in describing themselves as they generally are as 1 (*very inaccurate*) to 5 (*very accurate*). Higher scores represent higher levels of neuroticism. Cronbach’s alpha was .86.

Measures of Former Relationship For measures of the Investment Model and Jealousy participants were provided the following instructions:

You will be reporting on a relationship that has ended. The thoughts/feeling you have at this moment may be very different from the thoughts/feelings you had when the relationship was ongoing. For this questionnaire, please remember thoughts/feeling about the relationship when it was intact.

For each measure participants were reminded to respond in terms of the relationship when it was ongoing.

Jealousy The Pfeiffer and Wong (1989) 24-item Multidimensional Jealousy Scale was used to assess jealousy of former partner within the relationship. The scale consisted of three subscales that measured separate types of jealousy: Cognitive, Emotional, and Behavioral. Sample items include: Cognitive Jealousy, “I suspected that X was secretly seeing someone of the opposite sex” (1 = *never*, 7 = *all the time*); Emotional Jealousy, “X comments to you on how great looking a particular member of the opposite sex is” (1 = *very pleased*, 7 = *very upset*); and Behavioral Jealousy, “I looked through X’s drawers, handbags, or pockets” (1 = *never*, 7 = *all the time*). Higher scores represent higher levels of jealousy. Cronbach’s alphas were: 0.93 for Cognitive, 0.82 for Emotional, and 0.87 for Behavioral Jealousy.

Investment Model Scales The Rusbult et al. (1998) 37-item Investment Model Scales were used to assess Satisfaction, Quality of Alternatives, Investment, and Commitment. The wording throughout the scales was modified to reflect respondents focusing on past rather than current relationships. For the Satisfaction, Quality of Alternatives, and Investment scales, the participant first answered items intended to illustrate the construct, and then completed the items that were scored to create a scale score. Example items are: Satisfaction, “Our relationship did a good job of fulfilling my needs for intimacy, companionship, etc.,” Quality of Alternatives, “If I weren’t dating my former partner, I would do fine – I would find another appealing person to date;” and Investment, “Compared to other people I know, I have invested a great deal in my relationship with my former partner.” The Commitment scale included 7 items (e.g., “I wanted our relationship to last for a very long time”). Items were scored using a 9-point scale (1 = *Do Not Agree at All*, 9 = *Agree Completely*). Higher scores represent higher levels of relationship satisfaction, perceived quality of relationship alternatives, investment in the relationship and commitment. Alpha values were 0.94 for Satisfaction, 0.79 for Quality of Alternatives, 0.81 for Investment, and 0.86 for Commitment.

Unwanted Pursuit The Cupach and Spitzberg (2004) 28-item Relational Pursuit-Pursuer Short Form was used to assess whether and the extent to which participants engaged in unwanted pursuit after the relationship breakup. The instructions prompted the participant to respond to questions

pertaining to unwanted pursuit of the ex-partner in the romantic relationship that was difficult to end. The questionnaire asked: “Have you ever persistently pursued someone who did not want to be pursued by” and then lists 28 behaviors, such as “Invading the person’s personal space” or “Physically threatening the person.” Items are rated on a 5-point scale ranging from 0 (*Never*) to 4 (*Over 5 times*). Previous factor analyses have identified two factors: Pursuit, encompassing items that do not include threats or physical/sexual aggression, and aggression, which includes threatening and aggressive behaviors (Dutton and Winstead 2006). For this study, items 1–14 were averaged to create a measure of pursuit ($\alpha=0.85$) and items 15–28 were averaged to create a measure of aggression ($\alpha=0.80$).

Procedure The questionnaire was posted online using Inquisite software and made available to undergraduates who received research credit for participation. Participation was anonymous but contacts were offered to anyone wanting support or help with their situation.

Results

Preliminary analyses of sex and of relationship variables indicated that there were no sex differences in whether or not the participants engaged in unwanted pursuit and there were no sex differences in extent of pursuit or aggression. Whether the participant engaged in unwanted pursuit or not was also not related to length of the relationship, type of relationship, time since the relationship ended or who initiated the breakup. It was, however, related to number of times the relationship had broken up, $t(186)=2.03$, $p=0.04$. Pursuers reported more breakups ($M=2.5$, $SD=2.5$) than non-pursuers ($M=1.99$, $SD=1.99$). Number of breakups was also significantly related to extent of pursuit ($r=0.18$, $p=0.007$) and aggression ($r=0.26$, $p<0.001$) among those participants who engaged in pursuit.

To determine the distinction between those who engaged in unwanted pursuit and those who did not, we performed a discriminant function analysis (DFA) using all of the predictor variables as predictors of being a pursuer or not. With two groups, one discriminant function was calculated with $\chi^2(10)=51.48$, $p<0.001$. The loading matrix of correlations between predictor and the discriminant function indicated that the best predictors for distinguishing between pursuers and non-pursuers were Anxious Attachment, Behavioral Jealousy, Neuroticism, and Investment (correlations over 0.35). A MANOVA compared pursuers with non-pursuers on these variables, $F(10, 231)=5.68$, $p<0.001$. Follow-up univariates with Bonferroni adjustment for 12 comparisons, yielding an alpha level of 0.005, indicated that pursuers reported more Anxious Attachment ($M=3.02$, $SD=0.65$) than non-pursuers

Table 2 Bivariate correlations for pursuit, aggression, and predictor variables

	1	2	3	4	5	6	7	8	9	10	11
1. Pursuit	–										
2. Aggression	0.51***	–									
3. Anxious Attachment	0.33***	0.19*	–								
4. Avoidant Attachment	–0.06	0.04	0.19*	–							
5. Neuroticism	0.16*	0.21**	0.36***	0.15	–						
6. Cognitive Jealousy	0.12	0.07	0.22*	0.21*	0.34***	–					
7. Emotional Jealousy	–0.02	–0.01	0.07	–0.13	0.17*	0.24**	–				
8. Behavioral Jealousy	0.29***	0.22**	0.15	–0.09	0.23*	0.43***	0.27***	–			
9. Satisfaction	0.07	–0.03	–0.00	–0.09	–0.17*	–0.35***	–0.07	–0.13	–		
10. Alternatives	–0.17*	–0.00	–0.10	–0.00	–0.06	0.11	–0.06	0.11	–0.25**	–	
11. Investment	0.20**	0.19*	0.29***	0.06	0.06	–0.07	–0.16	–0.00	0.43***	–0.16*	–
12. Commitment	0.18**	0.10	0.14	–0.13	–0.01	0.02	0.04	0.08	0.41***	–0.24**	0.55***

$n=158$; * $p<0.05$. ** $p<0.01$. *** $p<0.001$

($M=2.76$, $SD=0.66$), $F(1, 240)=8.31$, $p=0.004$, partial $\eta^2=0.03$; more Behavioral Jealousy ($M=2.87$, $SD=0.99$) than non-pursuers ($M=2.05$, $SD=0.93$), $F(1, 240)=39.36$, $p<0.001$, partial $\eta^2=0.14$; more Neuroticism ($M=2.63$, $SD=0.83$) than non-pursuers ($M=2.31$, $SD=0.67$), $F(1, 240)=9.77$, $p=0.002$, partial $\eta^2=0.04$; and more Investment ($M=5.84$, $SD=1.65$) than non-pursuers ($M=4.87$, $SD=2.03$), $F(1, 240)=16.40$, $p<0.001$, partial $\eta^2=0.06$. Of the original cases used in the DFA, 74 % were correctly classified and 70 % of cross-validated cases were correctly classified into Pursuer and Non-pursuer groups.

To determine the predictors of extent of unwanted pursuit, correlational analyses were conducted for the 158 participants who reported engaging in unwanted pursuit. The pursuit and aggression scale distributions were positively skewed. An inverse transformation was used (signs are adjusted in reporting results). Due to the number of predictors, the variables for the multiple regressions were preselected based on bivariate correlations. See Table 2. Pursuit was significantly positively related to anxious attachment, behavioral jealousy, neuroticism, investment, and commitment and significantly negatively related to quality of alternatives. Correlations between pursuit and avoidance, cognitive jealousy, emotional jealousy, and satisfaction were not significant. When the six predictors were entered in a multiple regression, they accounted for 21 % of the variance in pursuit, $R=0.45$, $F(6, 151)=6.54$, $p<0.001$. Anxious attachment and behavioral jealousy were significant as predictors of pursuit. There was a trend for quality of alternatives as a predictor of pursuit (see Table 3).

Aggression was significantly positively correlated with anxious attachment, behavioral jealousy, neuroticism, and investment. Aggression was not correlated with cognitive or emotional jealousy, avoidance, satisfaction, alternatives, or commitment. When the four predictors were entered in a

multiple regression they accounted for 11 % of the variance, $R=0.33$, $F(4, 153)=4.78$, $p=0.001$. Significant individual predictors were behavioral jealousy and investment (see Table 3). There was no evidence of multicollinearity for either analysis.

Discussion

Unwanted pursuit following the breakup of a relationship is common. In our undergraduate sample, 65 % of participants reported having engaged in at least one pursuit behavior towards their former partner who “did not want to be pursued.” Using neuroticism, attachment style, jealousy, and the

Table 3 Predictors of pursuit and aggression

Predictor	β	t	p
Pursuit			
Jealous Behavior	0.26	3.46	0.001
Anxious Attachment	0.24	2.99	0.003
Neuroticism	0.00	0.01	<i>ns</i>
Investment	0.09	0.96	<i>ns</i>
Alternatives	–0.14	1.93	0.06
Commitment	0.01	0.51	<i>ns</i>
$R=0.45$, $R^2=0.21$, $F(6, 151)=6.54$, $p<0.001$			
Aggression			
Jealous Behavior	0.18	2.32	0.002
Anxious attachment	0.07	0.80	<i>ns</i>
Neuroticism	0.13	1.56	<i>ns</i>
Investment	0.16	2.04	0.043
$R=0.33$; $R^2=0.11$, $F(4, 153)=4.78$, $p=0.001$			

Criterion = Inverse transformed aggression, signs adjusted

Investment Model variables, we investigated the predictors of perpetration of unwanted pursuit.

Consistent with previous research we found that sex of participant did not predict either whether one engaged in unwanted pursuit or the extent of pursuit, as measured by ORI subscales, pursuit and aggression. As has been frequently found, in a sample of college students, women and men are equally likely to engage in unwanted pursuit behaviors, even the more serious, threatening behaviors (Dutton and Winstead 2006).

Several aspects of the relationship context, including the type of relationship, duration of relationship, and who initiated the breakup, were not related to unwanted pursuit. On the other hand, pursuers did report a greater number of previous breakups than non-pursuers and number of breakups was related to extent of pursuit and aggression among pursuers. Number of breakups may represent instability in the relationship, a relationship factor that deserves further study. It could be, however, that a history of reconciliation after a breakup encourages unwanted pursuit as the pursuit behavior may have been rewarded in the past.

Anxious attachment, as found in numerous previous studies (Davis, et al. 2000; Dutton and Winstead 2006; Dye and Davis 2003), distinguished between pursuers and non-pursuers and predicted the extent of pursuit and aggression, although it was not a significant individual predictor in the multiple regression for aggression. As has also been found in previous research on attachment style and unwanted pursuit, avoidant attachment was not related in any analysis to unwanted pursuit. The anxiously attached are ambivalent regarding relationships, but also needy. As their partner pulls away, their need for the relationship is likely to escalate leading to unwanted pursuit. Although avoidant attachment represents a desire to limit close, intimate contact, it does not significantly reduce the likelihood of pursuit. In fact, this study, as is the case with other research, found that avoidant attachment was unrelated to engaging in unwanted pursuit or the extent of pursuit. In other words, avoidant attachment does not prevent unwanted pursuit nor does it contribute to it.

Jealous behavior was the most robust of all the unwanted pursuit predictors, both distinguishing between pursuers and non-pursuers and predicting the extent of pursuit and aggression. This finding suggests, as Logan and Walker (2009) have recently argued, that unwanted pursuit/stalking may be “business as usual;” that is, patterns of behavior during the relationship will continue in a related form after the relationship. Cognitive jealousy (suspicions about the partner) and emotional jealousy (being upset about partner’s interest in others) were not predictors, but behaviors (calling unexpectedly, questioning, making a surprise visit, looking through partner’s things) were. Although not identical, these behaviors are similar to those that comprise unwanted pursuit. Perhaps it is this willingness to engage in intrusive behaviors that connects

behavioral jealousy to unwanted pursuit. This finding further suggests that indicators of the risk of unwanted pursuit/stalking may be present when the relationship is ongoing.

Neuroticism also distinguished between pursuers and non-pursuers and was correlated with extent of pursuit and aggression, although it was not a significant individual predictor in the multiple regressions. These findings suggest that emotional instability may contribute to unwanted pursuit. It is likely that the emotional regulation required to deal with the disappointment of a broken relationship is less available to those higher in neuroticism. Seeking to re-establish the relationship, even in ways that are known to be unwanted by the former partner, may seem like the only way to cope with the loss. Including neuroticism in the multiple regressions also helps to establish the fact that anxious attachment (for pursuit) and behavioral jealousy are related to unwanted pursuit independently of a participant’s fundamental emotional instability.

The Investment Model variables also contributed to unwanted pursuit, although satisfaction with the former relationship was not a significant predictor. Investment, commitment, and lower quality of alternatives were correlated with pursuit; and investment was correlated with aggression. There was a trend for perceived quality of alternatives as an individual predictor in the multiple regression for pursuit; and investment was a significant predictor of aggression. Believing that one has few alternatives to the lost relationship tends to increase the likelihood of persistence, although this variable contributed to the extent of pursuit and not aggression. Dutton and Winstead (2011) found that 35 % of pursuers reported that unwanted pursuit of a former partner ended when they started a new relationship, suggesting that while not having other relationship prospects is related to more pursuit, securing another relationship can inhibit unwanted pursuit. Investment both distinguished between pursuers and non-pursuers and predicted extent of aggression. When individuals perceive that they have put a great deal into a relationship and that this is lost along with the relationship itself, they are more motivated to persist in efforts to re-establish the relationship. Investment scale items refer to such things as shared memories, a recreational partner, and family ties. Perhaps loss of these investments contributes to the strong need to re-establish the relationship. The role of investment in aggressive pursuit also suggests that lost investments may lead to anger, which contributes to more threatening forms of unwanted pursuit.

Together these results create a picture of the individual who may be more likely to engage in unwanted pursuit/stalking. The partner who is neurotic, anxiously attached and prone to behavioral jealousy and who has made a large personal investment in the relationship is more likely to engage, following a relationship breakup, in unwanted pursuit. Among pursuers, anxious attachment, behavioral jealousy, and (as a trend) fewer relationship alternatives predict pursuit, and

behavioral jealousy and relationship investment predict aggression.

Limitations

The participants were undergraduates seeking research credits. Although relationship breakups and unwanted pursuit are common among young adults, an undergraduate sample still has its limitations. The nature of the larger undergraduate population in psychology courses also led to a disproportionate number of women (74 %) in the sample. While there were no gender differences in engaging in unwanted pursuit or in extent of unwanted pursuit reported by pursuers, the small number of men is problematic and also limited our ability to pursue analyses examining gender differences in correlates of pursuit and aggression.

Although anxious attachment was significantly related to unwanted pursuit, as it has been in previous studies, the internal consistency of this measure, using the short form developed by Wei et al. (2007), was not high ($\alpha=0.64$). A more reliable measure of anxiety may have shown that this variable is a stronger predictor of unwanted pursuit.

We have the report of only one partner. Although personality and relationship variables predicted unwanted pursuit as self-reported by that partner, we do not know how the other partner viewed the relationship or this individual. We also know from previous research (Dutton and Winstead 2006) that pursuers and victims of unwanted pursuit tend to report different levels of unwanted pursuit behaviors, in that pursuers report fewer instances of unwanted pursuit. We cannot be sure that this sample of pursuers was completely honest or accurate about their behaviors and we would expect that they might underreport unwanted pursuit.

Reporting on a relationship retrospectively is problematic. Not only is this a retrospective report concerning a relationship, but it is also occurring after the relationship has ended. Although we repeatedly instructed participants to describe their thoughts and feelings about the relationship they were in when it was ongoing, this may be difficult to do. Indeed, McFarland and Ross (1987) found that individuals tend to recall their ratings of a relationship in ways that are consistent with current feelings rather than being consistent with past impressions.

Conclusions and Future Research

This study has confirmed that number of breakups in the former relationship is related to unwanted pursuit, and that partners who are neurotic, anxiously attached, and behaviorally jealous are more likely to engage in unwanted pursuit after a breakup. Jealous and anxiously attached pursuers

engage in more pursuit and jealous pursuers engage in more aggressive pursuit, even when neuroticism is accounted for. It has also demonstrated that perceived quality of relationship alternatives and perceived investments in the relationship are important factors to consider in our efforts to understand what leads an individual to persist in trying to re-establish a relationship in ways that their former partner explicitly does not want. While the Attachment and Investment Models of relationships have much to contribute to greater understanding of unwanted pursuit, these findings are also relevant to Relationship Goal Pursuit Theory (Cupach and Spitzberg 2004), which suggests that pursuers link their relationship goals to greater personal goals and that they ruminate, experience emotional flooding, and rationalize their pursuit behaviors. The finding that investment, which specifically asks about linking the relationship to other aspects of one's life, predicts pursuit is especially interesting in light of the linking premise of this theory. The fact that neuroticism predicts being a pursuer supports the idea that individuals with less regulated cognitive and emotional responses to the lost relationship may be more likely to engage in unwanted pursuit.

Research on unwanted pursuit/stalking would be advanced by having both partners report on the relationship and one another's behavior. The relationship history might be better captured by information from both partners and unwanted pursuit is also more clearly understood when both the perpetrator and the victim report the occurrence. Victim fear is also often a part of the legal definition of stalking. Using data only from pursuers does not permit us to ask about victim's level of fear. Finally, longitudinal research is needed. Asking about relationship quality after the relationship is over is problematic (McFarland and Ross 1987). The perceptions and behaviors of both partners during the relationship may be more powerful predictors of what happens after the breakup.

Unwanted pursuit is common, and stalking, although less common, also affects many individuals. The picture that emerges of the pursuer is someone who is ambivalent about emotional closeness, prone to jealousy, emotionally dysregulated, has made sizeable investments in the relationship, and perhaps perceives less quality in alternative relationships. The relationship also has a history of breakups. Understanding the risk factors and the thoughts and feelings of pursuers can help both victims and potential victims. A person in an unstable relationship with a jealous partner who feels that he or she has put a lot into the relationship is in a potentially dangerous situation following a breakup. This person should be on the alert for signs of unwanted pursuit. The partner who resists the breakup and is tempted to engage in unwanted pursuit is likely dealing with issues of jealousy and anxious attachment. These may contribute to their continuing to focus on the lost relationship rather than other aspects of their lives. Interventions that reduce jealous behaviors and encourage more secure attachment could help

individuals prone to engage in unwanted pursuit. These individuals might learn to cope with their relationship loss and find suitable behavioral alternatives to unwanted pursuit of their former partners.

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