

**ATTACHMENT ANXIETY AND INTENTIONS TO USE CONDOMS:  
THE MODERATING EFFECTS OF INTERPERSONAL REJECTION**

by

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## Abstract

The purpose of this research program was to examine how attachment anxiety and rejection interact to influence intentions and attitudes toward having unprotected sexual intercourse. I hypothesized that women who were high in attachment anxiety would hold weaker intentions to use a condom and would have more negative attitudes toward condoms than would women who were low in attachment anxiety. Moreover, I predicted that these expected main effects of anxiety on intentions and attitudes would interact with rejection, such that the association between high anxiety and both weak intentions and negative attitudes would be exacerbated among women that were exposed to a rejection-salient condition. I explored the interaction of interest in the context of specific romantic partner rejection (Study One) as well as general social rejection from peers (Study Two). In Study One, I manipulated potential partner rejection and found that attachment anxiety and rejection condition interacted to influence intentions to engage in unprotected sex. In the rejection condition, attachment anxiety was marginally positively related to intentions whereas in the non-rejection condition, attachment anxiety was marginally negatively related to intentions. Upon further investigation of this same interaction, I found that among women who were high in attachment anxiety, rejection condition did not significantly impact intention ratings. However, among women who were low in attachment anxiety, those who were rejected reported significantly weaker intentions to engage in unprotected sex than those who were not rejected. Attitudes toward condoms were not influenced by the interaction between attachment anxiety and rejection condition. In Study Two, I manipulated general social rejection and found that the intentions results from Study One were not replicated, as general social rejection and

attachment anxiety did not interact to influence intentions to engage in unprotected sex.

Once again, attitudes toward condoms were not influenced by this interaction.

Explanations for the findings of Study One and Study Two are explored and implications of both studies' findings for the literature on condom use and for sexual health promotion are discussed.

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## Chapter 1

### General Introduction and Overview

Due to the risks associated with unprotected sex, it is important to explore both individual and situational factors that increase one's susceptibility to engaging in such risky behaviour. This is a particularly important topic to address among teenagers and young adults, as unwanted pregnancies and the spread of sexually transmitted infections (STI's) are still quite prevalent problems in this population (Dehne & Riedner, 2005). Further research is needed to identify individual characteristics that leave one vulnerable to engaging in risky sexual behaviours and to discover other external factors that may mediate or moderate the relationship between these individual characteristics and the acceptance of unprotected sex. In my thesis, I applied Attachment Theory (Bowlby, 1958; Hazan & Shaver, 1987) to address the influence of attachment anxiety on condom use. I also explored the role of rejection as a possible moderator of the relationship between attachment anxiety and people's intentions to use a condom and their attitudes toward condoms.

My thesis is comprised of two studies that assess the influence of anxiety and rejection on individuals' intentions to engage in unprotected sexual intercourse and their attitudes toward condoms. For the first study, I manipulated rejection from one's potential dating partner and assessed the interaction between anxiety and rejection on intentions and attitudes. For the second study, which was influenced by the findings of the first, I manipulated general social rejection from one's peers and assessed the interaction between anxiety and rejection on intentions and attitudes.

*Attachment Theory*

The notion of attachment was first proposed in the area of Developmental Psychology and was used to characterize the relationships and emotional bonds between infants and their primary caregivers (Bowlby, 1958). Further research in this area classified attachment into three prototypical categories, referred to as attachment styles (Ainsworth, Blehar, Waters, & Wall, 1978). Through the tested separation of an infant and his or her primary caregiver, a child could be classified as having either a secure, avoidant, or anxious attachment style. Infants who were securely attached would feel comfortable exploring new situations while their primary caregiver was present but would become distressed when they were left alone. Relief and joy were then experienced by secure infants once their caregivers returned. Avoidant infants were cold to their caregivers, ignoring them and being unaffected by their departure. Anxious infants would become distressed as their caregivers left them, but would feel uncomfortable once their caregiver returned and would subsequently continue to cry.

After the idea of attachment style was understood as a well-established addition to research in Developmental Psychology, Hazan and Shaver (1987) introduced the concept of attachment styles into the study of romantic relationships. They believed that characteristics of the three attachment styles of infancy, introduced by Ainsworth et al. (1978, as cited in Fraley & Waller, 1998), would translate from childhood over into the romantic life of an adult. They argued that, for the most part, a child's attachment style will stay consistent throughout his or her life and will influence the types of romantic interactions experienced in adulthood. By conducting large-scale studies of trends in romantic relationships, Hazan and Shaver (1987) were able to categorize specific characteristics of adult intimate interactions into the same three attachment styles of

infancy. Securely attached adults were described as having happy and friendly interactions with their partners and were involved in relationships that were highly trusting and supportive. Avoidantly attached adults were characterized by strong fears of intimacy and the desire to avoid emotional closeness. Anxiously attached adults were described as being very obsessive and possessive of their partners, fearing abandonment, and experiencing strong desires for emotional and sexual closeness.

Whereas Hazan and Shaver (1987) believed that the three styles of infant attachment would map over directly onto adult interactions, Bartholomew (1990) devised and promoted a four-category model of adult romantic attachment. She based these four categories on positive and negative combinations of two main factors: models of self and models of others. A positive model of self is characterized by viewing the self in a positive light, having a positive self-concept, and seeing the self as worthy of love from others. A negative model of self is characterized by viewing the self as unworthy of love, having a negative self-concept, and relying on one's associations with others to feel important and accepted. Someone with a positive model of others will see other people as trustworthy, caring, and dependable, whereas someone with a negative model of others will see others as distant, uncaring, and rejecting. By combining positive and negative levels of both models, four possible attachment styles may be derived (see Figure 1). A positive model of others and a positive model of self characterize a *secure* attachment style, similar to that described by Hazan and Shaver (1987). A securely attached individual will trust others and feel comfortable with partner intimacy and will also have self-confidence and independence. A positive model of others and a negative model of self characterize a *dismissing* attachment style, similar to Hazan and Shaver's (1987)

Figure 1. Four-category model of adult romantic attachment according to Bartholomew (1990).

		Model of Self	
		Positive	Negative
Model of Others	Positive	<b>SECURE</b>	<b>PREOCCUPIED</b>
	Negative	<b>DISMISSING</b>	<b>FEARFUL</b>

avoidant classification, and will include individuals that do not trust or like to get close to others but who still see themselves in a positive light. Whereas Hazan and Shaver (1987) included one category to represent anxiously attached individuals, Bartholomew (1990) broke this attachment style up into two distinct categories. In this light, a negative model of others and a negative model of self characterize a *fearful* attachment style, including individuals that do not trust others and also have negative self-concepts and feel unworthy of love. More similar to Hazan and Shaver's (1987) original anxious attachment classification, the final attachment style in this four-model theory is characterized by a positive model of others and a negative model of self, and is called a *preoccupied* attachment style. A preoccupied individual will want to experience emotional closeness with a partner but at the same time, will feel unworthy of love and therefore will fear rejection and abandonment from that partner.

Whereas the earlier efforts to describe adult romantic attachment styles were based on direct categorization, a more recent perspective of attachment describes the construct as being a continuous measure. Fraley and Waller (1998) proposed that attachment styles should no longer be viewed as the classification of individuals into distinct groups, but that attachment should be assessed along two different continuums,

ranging from low to high: anxiety and avoidance. Anxiety involves the degree to which an individual fears rejection and abandonment from others, whereas avoidance involves the degree to which an individual enjoys being emotionally close and intimate with others. Comparable to Bartholomew's (1990) categorization of attachment style, having low levels of anxiety is similarly understood as having a positive model of self and having high levels of anxiety can be understood as having a negative model of self. Likewise, having low levels of avoidance is similar to having a positive model of others, whereas high levels of avoidance can be seen as equivalent to having a negative model of others. By assessing attachment along two continuous dimensions, more variability in anxiety and avoidance can be accounted for, allowing for greater interpretability of the constructs. For this reason, and in accordance with the recommendation made by Tracy and (2003) to employ a continuous versus categorical measure of attachment, attachment in the current studies was conceptualized as continuous constructs of anxiety and avoidance.

## Chapter 2

### Study One

Attachment characteristics have been widely studied in the context of romantic relationships, including research in domains such as conflict, separation, and relationship satisfaction (for a review see Shaver & Mikulincer, 2006). However, even though sexuality is such an integral part of romantic relationships, little research on the associations between attachment style and sex has been conducted. A few studies have demonstrated that attachment styles are able to predict the sexual thoughts, beliefs, and behaviours of individuals, but surprisingly there is little research into how attachment style affects safer sex behavior.

Individuals who possess a secure attachment style, scoring low on both anxiety and avoidance, have been shown to engage in generally positive sexual activities. Securely attached individuals tend to experience healthy and intimate sexual encounters, engaging in few, if any, instances of casual sex and supporting the belief that sex without love is not pleasurable (Brennan & Shaver, 1995). They have also demonstrated a low likelihood of engaging in extra-relationship sexual activity (Hazan, Zeifman, & Middleton, 1994, as cited in Feeney, Kelly, Gallois, Peterson, & Terry, 1999).

Alternatively, avoidant individuals have been shown to foster non-intimate sexual tendencies. For example, it has been found that people who are high in avoidance engage in sexual intercourse to fulfill nonromantic goals, such as impressing their peers (Schachner & Shaver, 2004). In addition, high levels of avoidant attachment have been linked to potentially risky sexual behaviours. Brennan and Shaver (1995) explored the unrestricted sexual orientation of men and women and found that high ratings on

sociosexual orientation (e.g., high instances of casual sex, high number of previous partners, high number of expected future partners) were positively associated with having an avoidant attachment style, whereas high ratings on sociosexual orientation were negatively associated with having a secure attachment style. Avoidant individuals have also been found to be more accepting in general of uncommitted sex and to fantasize more about having sex with someone other than their current partner (Brennan & Shaver, 1995; Feeney, Noller, & Patty, 1993). From these findings, it may be suggested that individuals who are high in avoidant attachment may be inclined to engage in risky sexual behaviours with multiple casual partners. However, continued research has demonstrated that avoidant attachment is *negatively* associated with instances of reported engagement in unprotected intercourse (Feeney, Peterson, Gallois, & Terry, 2000). In addition, the same study found that highly avoidant individuals tend to endorse the belief that condoms protect against HIV/AIDS and other STI's and they do not endorse the belief that condoms reduce intimacy or that they are boring. Therefore, whereas avoidant individuals seem to engage in casual sex with a number of partners, they also tend to take a sexually cautious approach by reportedly using protection on a frequent basis.

Importantly, there have been several studies demonstrating that anxiously attached individuals tend to exhibit the most risky sexual behaviours and attitudes. In reports of personal sexual history, anxious attachment in women was positively associated with their sexual risk-taking, including having unprotected oral sex, avoiding communication with their partners about one another's sexual history, and feeling unable to resist pressure to engage in unprotected sex (Feeney et al., 2000). Greater levels of anxious-attachment have also been linked to lower levels of reported condom use in

general and to lower levels of condom use on an individuals' most recent instance of sexual intercourse (Feeney et al., 1999). Attitudes toward condoms in general are also influenced by attachment. When these attitudes were rated, both men and women that were high in attachment anxiety were more likely to rate condoms as being boring, interrupting foreplay, destroying spontaneity, as well as reducing intimacy, sexual satisfaction and pleasure relative to those that scored low in attachment anxiety (Feeney et al., 2000). In this same study, among women in particular, higher levels of anxiety were inversely related to using a condom during every sexual encounter and engaging in safer sex practices when involved in any type of sexual behaviour.

Based on these findings, it is clear that anxiously attached individuals are at risk of putting themselves in unsafe sexual situations in which unwanted pregnancy or STI transmission are at an increased likelihood relative to individuals possessing other attachment styles. For this reason, the current studies will focus on those individuals that are high in anxious attachment to determine what factors influence the positive association between anxiety and unprotected sex.

### *Anxiety and Rejection*

Surprisingly, while there is evidence supporting the notion that higher anxiety levels lead to unsafe sex practices, little empirical evidence has been provided to explain what factors may cause this association. Most studies conducted in this area are correlational and do not investigate any possible mediating or moderating variables involved. Therefore, little is known as to *why* highly anxious individuals engage in risky sexual behaviour.

One possible explanation for the relationship between an individual's high level of anxiety and his or her low levels of safer sex behaviour is a fear of potential rejection from the partner if unprotected sex is refused. Perhaps it is the case that highly anxious individuals resort to engaging in unprotected sexual behaviours and to viewing condoms in a negative light because they fear that the refusal of unprotected sex or the promotion of condom use in their sexual relationships may lead to rejection from their partners.

By definition, attachment anxiety is associated with a fear of rejection and abandonment from others (Fraley & Waller, 1998). Therefore, individuals who are high in attachment anxiety should be particularly sensitive to rejection cues in romantic relationships. In this vein, Mikulincer, Dolev, and Shaver (2004) found that highly anxious individuals are particularly preoccupied by thoughts of relationship-related rejection. Participants in their study were asked to write about an experienced instance of a painful and unwanted romantic breakup and then wrote for five minutes on their stream of consciousness by relating their thoughts, feelings, and memories as they came to mind. Half of the participants were asked to suppress thoughts of the breakup that they previously described whereas the other half were not. All participants were then asked to identify, using a check-mark, each time that a thought relating to the breakup occurred. Regardless of suppression condition, attachment anxiety was positively related to the number of check-marks indicated. Furthermore, participants later completed a Stroop task that included separation-related words and the authors found that higher levels of attachment anxiety were related to quicker accessibility of separation words in the Stroop task.

Furthermore, due to their fears of rejection and abandonment from romantic partners, individuals who are high in attachment anxiety should experience a heightened level of distress following rejection and should presumably try to avoid such rejection. Consistent with this idea, anxious individuals, as compared to individuals with an avoidant or secure attachment style, have been shown to become the most upset following a romantic breakup (Feeney & Noller, 1992). They also experience highly negative reactions to long-term separation from their romantic partner, which can be potentially understood as a sign of possible rejection or abandonment. For instance, Fraley and Shaver (1998) observed couples as they waited in the airport for one partner to leave for his or her flight and found that women's attachment anxiety was positively related to their experiences of separation distress prior to their partner's departure.

Therefore, because highly anxious individuals are particularly sensitive and react aversively to rejection, I propose that they may act in ways that are aimed at avoiding such rejection. In the case of a sexual encounter, highly anxious individuals may engage in low levels of safer sex behaviour as a result of their fears of potential rejection from a partner upon the refusal of unprotected sex. Consistent with this idea, Davis, Shaver, and Vernon (2004) found that participants who were high in anxiety showed greater interest in sex when feeling insecure in their relationships than participants who were low in anxiety. In addition, they found that anxiety was positively associated with having motivations for sex that were based on gaining reassurance from and maintaining emotional closeness with partners. Similarly, Schachner and Shaver (2004) discovered that anxiety was positively associated with having sex to foster intimacy and to reduce insecurity in a romantic relationship. Therefore, it appears as though individuals who are

high in attachment anxiety tend to have sexual intercourse when feeling vulnerable in their relationships.

Studies that explored women's consent to unwanted sex also provide some evidence that fears of rejection may be influencing the relationship between attachment anxiety and condom use. Gentzler and Kerns (2004) found that highly anxious women were much more likely to consent to unwanted sexual intercourse than women who scored low on anxious attachment. Impett and Peplau (2002) found similar results. They asked female participants to imagine a scenario in which they returned home from work or school after a long day and had no interest in engaging in sexual intercourse with their partner. However, in the scenario, the partner returns home and begins sending signals that he is very interested in having sex. Participants were then asked to rate the likelihood that they would consent to unwanted sexual intercourse in this scenario and then to cite reasons that influenced their decision. Not only were highly anxious women more likely to give in to unwanted sex in the proposed scenario, but they also regularly cited fears that their partner would lose interest in them if they refused intercourse. Adolescent girls have been found to show similar patterns of behaviour in that attachment anxiety has been associated with greater instances of unprotected sexual activity due to fears of losing one's partner upon the refusal of unprotected sexual intercourse (Cooper, Shaver, & Collins, 1998). This finding was true for the girls' first ever instance of sexual intercourse as well as their first and most recent sexual encounter with their current partner. Therefore, highly anxious women show a tendency to give in to the desires of their partner, even if those desires are inconsistent with their own, partly due to fears of rejection.

A more recent study exploring the effects of rejection threat on sexual fantasies provides further evidence for a potential role for rejection in the relationship between attachment anxiety and sexual decision-making. Birnbaum, Svitelman, Bar-Shalom, and Porat (2008) asked male and female participants to imagine either a threatening relationship scenario in which their partner was engaging in a romantic affair or to imagine a nonthreatening relationship scenario and then were subsequently asked to describe sexual fantasies that came to mind. Among participants in the relationship threat condition but not among those in the non-threat condition, higher levels of anxiety were associated with a greater desire among participants to please their sexual partner in their sexual fantasies. Importantly, this same partner-pleasing finding might be expected when a potential relationship threat is present and a highly anxious individual's partner desires unprotected sexual intercourse.

Although there is no direct evidence that the fear of rejection is driving the relationship between high anxiety and low condom use, cited concerns by participants and the associations found in the aforementioned studies suggest that such fears may be quite influential. From this reasoning, for my first study I predicted that there would be a main effect of anxiety, such that higher levels of anxiety would predict weaker intentions to use a condom and more negative attitudes toward condom use. However, I expected this finding to be qualified by an interaction between anxiety and rejection condition, such that the expected main effect would be found among participants who were induced to fear potential partner rejection if unsafe sex was refused only or would be significantly more pronounced in that rejection condition than in the non-rejection condition, in which participants were not led to fear potential partner rejection if unsafe sex was refused. I

believed that if participants were presented with a scenario in which possible partner rejection was made salient, the fears of abandonment among highly anxious participants would lead them to avoid such rejection by consenting to unprotected sexual intercourse. Even more specifically, I expected that among participants who were high in attachment anxiety, those in the rejection condition would show stronger intentions to have unprotected sex and more negative attitudes towards condoms than those in the non-rejection condition. Among women who were low in attachment anxiety, I expected that there would be no difference in rated intentions or attitudes between the rejection condition and the non-rejection, as these individuals were not expected to react to potential rejection in such a way that aims to preserve the relationship and avoid abandonment.

In addition to assessing participants' attitudes toward condoms and their intentions to use condoms, I also included additional dependent measures for exploratory purposes to assess how participants might react if they were presented with a situation in which they desired sexual intercourse but no condom was available. In general, I expected theoretically equivalent findings to those outlined in my aforementioned hypotheses, such that higher levels of anxiety in combination with threats of rejection would lead to the greatest tendency to make risky sexual decisions.

## Method

### *Participants*

One hundred and one female participants<sup>1</sup> who were either enrolled in the Queen's University Introductory Psychology class ( $n = 83$ ) or who were students from other classes and had agreed to be contacted for participation in Psychology studies for payment ( $n = 18$ ) were selected to participate in the study. I selected participants based on their responses to pre-screening questions administered during class. Only those students who were sexually active and who were not in a steady relationship were asked to participate. Also, it was required that participants reported being regular condom users, therefore only those students who scored higher than 3 on a self-report scale measuring the frequency of condom use (with 1 representing *Never* and 9 representing *Always*) were selected as participants. I did not recruit irregular condom users because I wanted the stimuli, which depicted a dilemma of whether to have sex without a condom, to be relevant to participants.

As part of the pre-screening, participants also completed the Attachment in Close Relationships Questionnaire (Brennan, Clark, & Shaver, 1998). This questionnaire assesses one's levels of anxiety and avoidance, each as dimensional measures of attachment. Eighteen items measure the anxiety dimension (e.g., "I worry a lot about my relationships") and another 18 measure the avoidance dimension (e.g., "I do not often worry about being abandoned"). All items are responded to on a scale from 1 (*Strongly*

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<sup>1</sup> Based on current social norms, one could argue that the likelihood of a man pressuring a woman into having unprotected sex is greater than the likelihood of the reverse. This argument is supported by previous pilot studies conducted in our laboratory. In particular, men who were exposed to a vignette in which the male character was being pressured into having unprotected intercourse by the female character subsequently rated the vignette as unrealistic and inconsistent with social norms. Furthermore, male participants also rated the female character as unlikable. Because I believed that the manipulations used in the current study would be more relevant and realistic for women than for men, only women were included as participants.

*Disagree*) to 7 (*Strongly Agree*) and scores on each dimension are determined by taking the mean score from each set of 18 items. Both subscales were reliable, (anxiety: Cronbach  $\alpha = .93$ , avoidance: Cronbach  $\alpha = .91$ ) and were uncorrelated with one another  $r(99) = .08, p = .44$ .

### *Procedure*

After explaining the study and obtaining informed consent from participants, individuals were randomly assigned to one of two conditions: rejection or non-rejection. Participants were then given a selection of six photographs of attractive men. The photos were taken from the website, [www.hotornot.com](http://www.hotornot.com). On this website, individuals upload photographs of themselves in order for viewers to rate their attractiveness on a scale from 1 (*lowest level of attractiveness*) to 10 (*highest level of attractiveness*). Only those men in the age group of 18 to 25 were selected and each had been given an overall attractiveness rating of at least 9 out of 10. Participants were asked to choose from the six photos which man they found the most attractive. The chosen photograph was kept in the view of participants for the remainder of the study in order to aid participants in imaging a realistic representation of the scenario. The remaining photos were returned to the researcher.

Next, participants were told that they would be reading a vignette. They were asked to imagine themselves as the female character in the scenario and the man in the chosen photograph as the male character. One of two vignettes was administered, depending on condition. Both conditions included narrative and dialogue describing a male and female university student, both wishing to engage in sexual intercourse but finding themselves without a condom. The rejection condition vignette concluded with

dialogue from the man suggesting that he might end the relationship if they did not engage in sexual intercourse (for the complete vignette, see Appendix A):

Well, I really like you and I can tell you feel the same way about me. So then it should be okay – I mean, you're on the pill and everything. We both want to do this. I think you're amazing. If we sleep together I'll feel so close to you. I really want to feel close to you. I need to know our relationship is moving forward and for me sex is the most important part of that. So...are you up for this?

In contrast, the non-rejection vignette concluded with the man expressing equal interest in wanting intercourse but he did not give any sign of ending the relationship if intercourse was refused (for the complete vignette, see Appendix B):

Well, I really like you and I can tell you feel the same way about me. So then it should be okay – I mean, you're on the pill and everything. We both want to do this. I think you're amazing. It's up to you though...I don't want to pressure you. We can wait if you really want to but I want to sleep with you so bad. But really, it's up to you. So...are you up for this?

### *Dependent Measures*

All dependent measures were assessed using a paper-and-pencil questionnaire (see Appendix C). In total, nine dependent measures were assessed. The correlations between all dependent measures (excluding the thought listings) are listed in Appendix D. The means and standard deviations associated with each dependent measure (excluding the thought listings) are listed in Appendix E.

The three primary dependent measures were one's intentions to engage in unprotected sex, one's thoughts regarding that intentions rating, and one's attitudes towards condoms. These three measures were completed by participants directly after reading the vignette.

*Intentions.* Participants were first asked to respond to the item, “If I were in this situation, I would engage in sexual intercourse” on a scale from 1 (*strongly agree*) to 9 (*strongly disagree*).

*Thought Listings.* Directly after reporting their intentions and before reporting their attitudes, participants were asked to list up to eight factors that influenced their intentions rating. Thought listings were coded using a template that was designed for previous research (MacDonald, Fong, Zanna & Martineau, 2000) that assesses both the valence and the specific content of each statement. Each statement’s valence was coded as either impelling (i.e., exhibiting intentions to engage in unprotected sex) or inhibiting (i.e., exhibiting intentions to abstain from engaging in unprotected sex). The content of each statement was coded as representing one of 13 different areas (see Table 1 for the content categories and an impelling and inhibiting sample statement for each). A fourteenth category for content coding was included for statements that could not be coded. The thought listings were coded by two researchers and high interrater reliability was achieved (valence: kappa = .94, content: kappa = .84). Any disagreements in coding were resolved through discussion between the coders. For each participant, the number of impelling thoughts, inhibiting thoughts, and the number of impelling and inhibiting thoughts for each content area were divided by the total number of thoughts they listed. This method was used in order to create a proportion for each type of thought listing so that the results would not be confounded by the number of thoughts listed.

Table 1

*Content Categories used to Code Thought Listings*

Codes for Content Category	Examples
Alternatives	
Impelling	There is a lot more we could do, other than sex.
Inhibiting	N/A
Risk	
Impelling	I am on the pill, so I won't get pregnant.
Inhibiting	I would be afraid of getting STI's.
Attractiveness	
Impelling	He is really nice and extremely good looking.
Inhibiting	He comes across as sleezy [ <i>sic</i> ]
Past Experience	
Impelling	I have had sex in a situation like this before and nothing bad happened afterwards.
Inhibiting	I have done this before and it was so stressful.
Future	
Impelling	N/A
Inhibiting	I would be so paranoid about getting pregnant afterwards that it's not worth it
Arousal	
Impelling	In the heat of the moment, it's hard to say no.
Inhibiting	I would stop making out because I know that in that situation, my arousal could lead to making the wrong decision.
Intoxication	
Impelling	If I were under the influence of alcohol, I would definitely go ahead with it.
Inhibiting	N/A
Personal Rules	
Impelling	N/A
Inhibiting	I don't have sex on the fifth date.
Pressure/Rejection	
Impelling	He may not want to see me again if we don't have sex
Inhibiting	He seems to be leaving the decision up to me, so he probably wouldn't be mad if I said no
Familiarity	
Impelling	If we have gone out of 5 dates, I probably know him pretty well.
Inhibiting	I hardly even know this guy.
Trust	
Impelling	He seems like someone I can trust
Inhibiting	He could be lying to me just to get me into bed.
Respect	
Impelling	He seems to respect me and my decisions.
Inhibiting	I don't want him to think I am easy.
Relaxed	
Impelling	N/A
Inhibiting	I would be so worried the whole time that I wouldn't even enjoy the sex.

*Attitudes.* Participants were then asked to rate their attitudes toward condoms by completing a semantic differential scale that I designed for the purposes of this study. Examples of adjectives used include, “Negative/Positive,” “Stressful/Relaxing” and “Pleasant/Unpleasant.” Where appropriate, items were reverse coded such that higher ratings reflected more positive attitudes toward condom use. The 11 items on the scale were highly correlated (Cronbach’s  $\alpha = .84$ ), and so were aggregated to form a composite attitude score.

The next set of items assessed the secondary dependent measures for the current study. Participants were asked to respond to a series of statements relating to how they would act, imagining themselves in the situation presented in the vignette. All items were assessed on a 9-point rating scale ranging from 1 (*strongly agree*) to 9 (*strongly disagree*). Several constructs were represented in this questionnaire:

*Rejection.* Six items assessed participants’ fears of rejection if intercourse were refused (e.g. “I would be worried that my partner wouldn’t like me as much if I didn’t agree to have sexual intercourse”). The six items showed high internal consistency (Cronbach’s  $\alpha = .89$ ) and so were aggregated into one scale.

*Comfort with Discussing Condoms.* Participants were asked to respond to the item, “While making out with my partner, I would feel uncomfortable about discussing condoms with him.”

*Partner's Felt Trust.* Participants were asked to respond to the item, “My partner may think that I don’t trust him if I insist on using a condom.”

*Justifications.* Seven items were included to assess the justifications that participants used to influence their decision not to use a condom in the situation

presented. Examples of items on this scale include, “Using a condom in this situation would kill the romantic mood” and “Because there is no chance of getting pregnant (because of the birth control pill), there’s little for me to worry about if we have intercourse.” The seven items showed satisfactory internal consistency (Cronbach’s  $\alpha = .78$ ) and so were aggregated into one scale.

*Consider Other Options.* Participants were asked to respond to the item, “If I were in this situation I would continue to make out with my partner but would not have sexual intercourse.”

*Condom Importance.* Participants were asked to respond to the item, “In this situation, having a condom is important in deciding whether or not to have sexual intercourse.”

*Difficult Decision.* Participants were asked to respond to the item, “In this situation, I would find it difficult to decide whether to have sexual intercourse.”

*AIDS/STIs.* Two questions were combined to assess participants’ consideration of AIDS and STI prevention through the use of a condom. Participants were asked to respond to the items, “I would not get AIDS if I used a condom in this situation” and “I would not get other STI’s such as gonorrhoea, syphilis, or herpes if I used a condom in this situation.” The two items were significantly correlated,  $r(99) = .86, p < .001$ , and so the items were combined.

*Mood.* Participants were also asked to complete the Positive and Negative Affect Schedule (PANAS) to assess their moods (Watson, Clark, & Tellegen, 1988). The PANAS includes 20 emotion items, 10 of which measure negative affect (NA; “Distressed,” “Upset,” “Hostile,” etc.) whereas the other 10 measure positive affect (PA;

e.g., “Interested,” “Excited,” “Enthusiastic,” etc.) and participants were asked to indicate on a scale from 1 (*Very slightly or not at all*) to 5 (*Extremely*) the extent to which they had felt that way in the past. Both subscales demonstrated acceptable levels of reliability (NA: Cronbach’s  $\alpha = .81$ , PA: Cronbach’s  $\alpha = .84$ ) and were negatively correlated,  $r(99) = -.28, p = .004$ . Although the PA and NA subscales of the PANAS are considered independent from one another and thus largely uncorrelated, previous research has found some instances of negative yet moderate correlations between the subscales, similar to the correlation reported here (Watson et al., 1988).

### Results

As stated in my hypothesis, I expected attachment anxiety to be positively associated with intentions to have unprotected sex and to the endorsement of negative attitudes toward condoms. Furthermore, I hypothesized that this finding would be qualified by an interaction, such that the relationship between anxiety and intentions and between anxiety and attitudes would be moderated by the rejection condition to which participants were assigned. In particular, I predicted that the expected main effects would be found in the rejection condition only or would be significantly more pronounced in the rejection condition than in the non-rejection condition.

Following the recommendations made by Aiken and West (1991), I conducted a multiple regression analysis on each of the dependent measures to assess the main effects of and interactions between attachment anxiety, attachment avoidance, and rejection condition. For the rejection condition variable, the non-rejection condition was coded as 0 and rejection condition was coded as 1. Next, both anxiety and avoidance scores were mean centered so as to reduce multicollinearity. I then computed two- and three-way

interaction terms using the mean centred anxiety and avoidance scores and the rejection condition variable.

Because I did not make any predictions regarding attachment avoidance or the interaction between avoidance and any other predictors, only rejection condition, attachment anxiety and the interaction between condition and anxiety are included as predictors in the following analyses. However, it should be noted that I separately assessed all of the following dependent variables by including attachment avoidance and all of its interactions as predictors in the regression analyses. Importantly, the results of these analyses did not differ greatly in interpretation from those presented below.

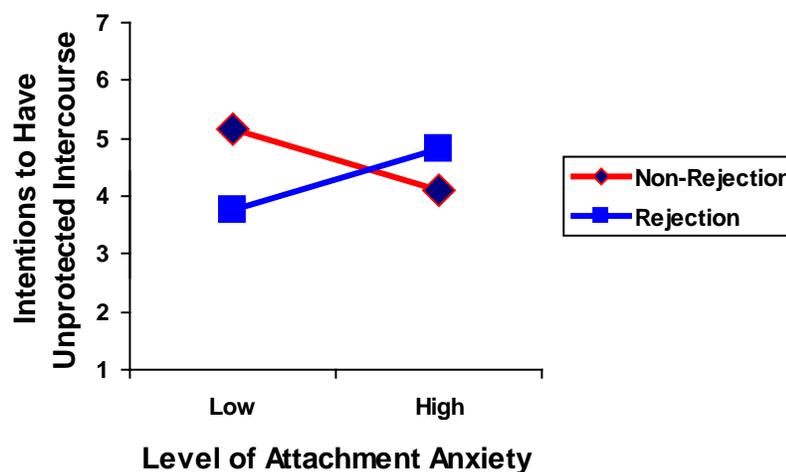
For all of the following dependent variable results, I report the main effect of attachment anxiety, the main effect of rejection condition, and the interaction between attachment anxiety and rejection condition. When I find a significant interaction between rejection condition and anxiety, I decompose it using a simple slopes analysis, following the recommendations made by Aiken and West (1991). Finally, for the following results,  $B$  represents the unstandardized regression coefficient for each predictor.

*Rejection.* To assess the validity of the rejection manipulation, a multiple regression analysis was first conducted using participants' fears of rejection as the dependent variable. The overall model was significant,  $R^2 = .16$ ,  $F(3, 98) = 6.03$ ,  $p = .001$ . As would be expected, participants in the rejection condition experienced greater fears of rejection than those in the non-rejection condition,  $B = .81$ ,  $t(98) = 2.57$ ,  $p = .01$ , indicating that the rejection manipulation used was successful. In addition, participants with higher levels of anxiety were more fearful of being rejected by their partner than participants with lower levels of anxiety,  $B = .56$ ,  $t(98) = 3.13$ ,  $p = .002$ . The interaction

between anxiety and rejection condition on participants' fears of rejection was not significant ( $B = -.22, p = .38$ ).

*Intentions.* The overall regression model predicting intentions to engage in unprotected sex was marginally significant,  $R^2 = .06, F(3, 98) = 2.23, p = .09$ . Neither attachment anxiety nor rejection condition predicted intentions ( $B = -.43, p = .09$  and  $B = -.33, p = .44$ , respectively). However, the interaction between anxiety and rejection condition was a significant predictor of one's intentions to engage in unprotected sex,  $B = .85, t(98) = 2.44, p = .02$  (see Figure 2). Therefore, as expected, the effect of anxiety on intentions to engage in sex without a condom was moderated by the rejection condition to which a participant was assigned.<sup>2</sup>

Figure 2. Interaction between attachment anxiety and rejection condition on intentions to use condoms.



To decompose the interaction between anxiety and rejection condition, I conducted two bivariate linear regression analyses. Although not part of my hypothesis, I

<sup>2</sup> Furthermore, the interaction between anxiety and rejection condition remained significant even after including participants' avoidance scores and the two- and three-way interactions that included avoidance scores as predictors,  $R^2 = .09, F(7, 94) = 1.39, p = .22; B = .76, t(94) = .76, p = .04$ .

found that among participants in the non-rejection condition only, anxiety levels were marginally negatively related to one's intentions to engage in unprotected sex ( $B = -.42, p = .10$ ). Consistent with my prediction, I found that among participants in the rejection condition only, anxiety was marginally associated with intentions, such that higher levels of anxiety among rejected participants were related to stronger intentions to have sex without a condom,  $B = .43, t(50) = 1.78, p = .08$ .

Of course with any two-way interaction, there are two possible ways of decomposing the data. Therefore, I also decomposed the current interaction to assess the effect of rejection condition on intentions at both low levels of attachment anxiety and high levels of attachment anxiety. Analyses using simple slopes revealed that at high levels of anxiety, there was a nonsignificant difference in intentions ratings between the rejection ( $M = 4.83$ ) and non-rejection ( $M = 4.10$ ) conditions ( $B = .75, p = .24$ ), although the direction of this pattern was consistent with my main hypothesis. Alternatively, at low levels of anxiety there was a significant difference in the intentions ratings reported by participants in the rejection condition ( $M = 3.76$ ) and participants in the non-rejection condition ( $M = 5.16$ ). Unexpectedly, at low levels of anxiety, participants in the rejection condition reported significantly lower intentions to engage in unprotected intercourse than those in the non-rejection condition,  $B = -1.42, t(98) = -2.32, p = .02$ . Therefore, the interaction between attachment anxiety and rejection condition on participants' reported intentions appears to be driven primarily by the effects of rejection on intentions among women who are low in anxiety.

*Valence of Thought Listings.* Only the results for the proportion of impelling thoughts are provided here, as reporting the results for the proportion of inhibiting

thoughts would be redundant. The overall regression model predicting the proportion of impelling thoughts listed was not significant,  $R^2 = .05$ ,  $F(3, 98) = 1.82$ ,  $p = .15$ . No significant main effects or interactions existed in the prediction of impelling thought listings ( $Bs < |.11|$ ,  $ps > .10$ ), however some noteworthy trends were found. A nonsignificant but trending main effect of rejection condition on impelling thoughts indicated that participants in the rejection condition experienced fewer impelling thoughts than participants in the non-rejection condition,  $B = -.12$ ,  $t(98) = -1.63$ ,  $p = .11$ . Furthermore, an interaction between anxiety and rejection condition was nonsignificant but trending,  $B = .09$ ,  $t(98) = 1.61$ ,  $p = .11$ , and so it was decomposed. A simple slopes analysis revealed that at high levels of anxiety, there were no significant differences in impelling thoughts between the two rejection conditions ( $B = .002$ ,  $p = .99$ ). However, at low levels of anxiety, participants in the non-rejection condition showed greater instances of impelling thoughts than participants in the rejection condition,  $B = -.24$ ,  $t(98) = -2.33$ ,  $p = .02$ .

*Valence of Thought Listings and Intentions.* Because rejection led participants who were low in anxiety to report both weaker intentions to engage in unprotected sex and fewer impelling thoughts, I assessed whether the proportion of impelling thoughts expressed mediated the relationship between rejection condition and intentions to engage in unprotected sex using a mediation analysis. Using only participants who scored low in attachment anxiety (as indicated by anxiety scores that fell below the median), I conducted a mediation analysis (Baron & Kenny, 1986) to explore the process by which rejection related to intentions to have sex without a condom, providing a deeper understanding of potential factors that drive the relationship between these two variables.

Rejection condition did significantly predict intentions to engage in unprotected sex,  $B = -1.50$ ,  $t(49) = -2.57$ ,  $p = .01$ , thus satisfying the first criterion of the mediation analysis. Rejection condition also significantly predicted the proportion of impelling thoughts listed,  $B = -.24$ ,  $t(49) = -2.74$ ,  $p = .01$ , thus satisfying the second criterion of the mediation analysis. After including both rejection condition and the proportion of impelling thoughts listed as predictors of intentions to engage in unprotected sex in a multiple regression analysis, the proportion of impelling thoughts listed significantly predicted intentions,  $B = 5.26$ ,  $t(48) = 9.17$ ,  $p < .001$ , however rejection condition was no longer a predictor of intentions,  $B = -.22$ ,  $t(48) = -.58$ ,  $p = .56$ . Although rejection condition was no longer a significant predictor of intentions to engage in unprotected sex after accounting for the proportion of impelling thoughts listed, a Sobel test was conducted to assess whether this drop in significance was indicative of true statistical mediation. According to the Sobel test, the proportion of impelling thoughts listed fully mediated the relationship between rejection condition and intentions to engage in unprotected sex,  $z = -2.64$ ,  $p = .008$  (see Figure 3).<sup>3</sup>

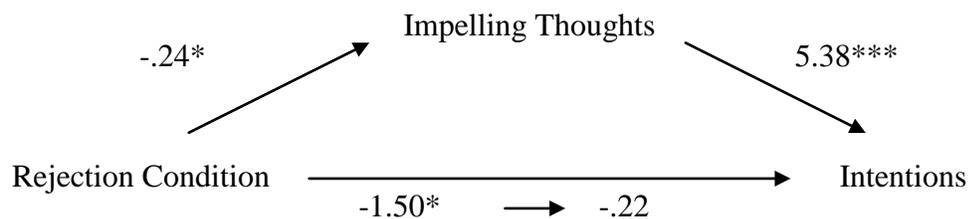
To further assess the validity of the mediation, I analyzed the reverse model, assessing whether intentions to engage in unprotected sex mediated the relationship between rejection condition and the proportion of impelling thoughts listed. If significant mediation for this reverse model was not found or was weaker than the original mediation model then this would further support the original significant mediation result.

Rejection condition did significantly predict the proportion of impelling thoughts

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<sup>3</sup> Because intentions ratings had temporal precedence over thought listings, it could be questionable to use thought listings as a mediator variable and therefore the results of this mediation analysis should be interpreted with caution.

Figure 3. Mediation analysis for participants who scored low in attachment anxiety: On the path between rejection condition and intentions, the value on the left is the zero-order regression coefficient and the value on the right is the partial regression coefficient after entering impelling thoughts into the model.



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

listed,  $B = -.24$ ,  $t(49) = -2.74$ ,  $p = .01$ , thus satisfying the first criterion of the mediation analysis. Rejection condition also significantly predicted intentions to engage in unprotected sex,  $B = -1.50$ ,  $t(49) = -2.57$ ,  $p = .01$ , thus satisfying the second criterion of the mediation analysis. After including both rejection condition and intentions as predictors of impelling thoughts in a multiple regression analysis, intentions significantly predicted impelling thoughts,  $B = .12$ ,  $t(48) = 9.17$ ,  $p < .001$ , however rejection condition was no longer a predictor of intentions,  $B = -.06$ ,  $t(48) = -1.06$ ,  $p = .29$ . Although rejection condition was no longer a significant predictor of impelling thoughts after accounting for the intentions, a Sobel test was conducted to assess whether this drop in significance was indicative of true statistical mediation. According to the Sobel test, intentions fully mediated the relationship between rejection condition and the proportion of impelling thoughts listed,  $z = -2.48$ ,  $p = .013$  (see Figure 4).

Therefore, both mediation analyses were significant, supporting both the model that impelling thoughts acts as a mediator between rejection condition and intentions and the model that intentions act as a mediator between rejection condition and impelling

Figure 4. Mediation analysis for participants who scored low in attachment anxiety: On the path between rejection condition and impelling thoughts, the value on the left is the zero-order regression coefficient and the value on the right is the partial regression coefficient after entering intentions into the model.



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

thoughts. However, it should be noted that the original mediation model was slightly stronger than the reverse model. For the original model in which impelling thoughts acted as the mediator, the Sobel  $z$  value was slightly larger than in the reverse model in which intentions acted as the mediator. Furthermore, including both impelling thoughts and rejection condition as predictors of intentions in the third step of the original mediation analysis resulted in an 85% drop in rejection condition's prediction (assessed using the unstandardized regression coefficient) as compared to the first step of the analysis in which rejection condition alone predicted intentions. In the reverse mediation model, including both intentions and rejection condition as predictors of impelling thoughts in the third step of the mediation analysis resulted in an 75% drop in rejection condition's prediction (assessed using the unstandardized regression coefficient) as compared to the first step of the analysis in which rejection condition alone predicted impelling thoughts. Therefore, although both mediation models were significant, the magnitude of the effect for the original model was moderately larger than that of the reverse model.

#### *Content of Thought Listings*

To assess participants' thought listings in greater detail, I analyzed the proportion of thoughts listed according to both content category and valence. Therefore, I analyzed whether attachment anxiety, rejection condition, and the interaction between them predicted impelling thoughts for each content category and inhibiting thoughts for each content category. The results of these analyses are reported below.

*Impelling Risk Thoughts.* The overall regression model predicting the proportion of impelling risk thoughts listed was significant,  $R^2 = .10$ ,  $F(3, 98) = 3.76$ ,  $p = .01$ . The rejection condition predicted impelling risk thoughts, such that more thoughts were expressed among participants in the non-rejection condition than among those in the rejection condition,  $B = -.06$ ,  $t(98) = -2.92$ ,  $p = .004$ . Furthermore, a nonsignificant main effect of attachment anxiety on impelling risk thoughts was found, although the trend was interesting in that individuals who were low in anxiety were more likely to express impelling risk thoughts than individuals who were high in anxiety,  $B = -.02$ ,  $t(98) = -1.67$ ,  $p = .10$ . The interaction between rejection condition and attachment anxiety did not predict the proportion of impelling risk thoughts listed ( $B = .03$ ,  $p = .14$ ).

*Impelling Attractiveness Thoughts.* The overall regression model predicting the proportion of impelling attractiveness thoughts listed was not significant,  $R^2 = .04$ ,  $F(3, 98) = 1.42$ ,  $p = .24$ . Neither the rejection condition nor attachment anxiety predicted the proportion of impelling attractiveness thoughts expressed ( $B = .001$ ,  $p = .98$  and  $B = -.02$ ,  $p = .29$ , respectively). However, the interaction between attachment anxiety and rejection condition was significant,  $B = .04$ ,  $t(98) = 2.00$ ,  $p = .05$ . Using a simple slopes analysis, I found that among women who were low in anxiety, those who were in the rejection

condition were nonsignificantly less likely to express impelling attractiveness thoughts than those who were in the non-rejection condition,  $B = -.05$ ,  $t(98) = -1.44$ ,  $p = .15$ .

Among women who were high in anxiety, the findings were reversed: those who were in the rejection condition were nonsignificantly more likely to express impelling attractiveness thoughts than those who were in the non-rejection condition,  $B = .05$ ,  $t(98) = 1.43$ ,  $p = .16$ . Although the relationship between rejection condition of the proportion of thoughts listed was not significant among women who were low in attachment anxiety nor among women who were high in attachment anxiety, the directions of the relationship were opposite for both groups, reflecting the significant interaction.

*Inhibiting Attractiveness Thoughts.* The overall regression model predicting the proportion of inhibiting attractiveness thoughts listed was significant,  $R^2 = .31$ ,  $F(3, 98) = 14.71$ ,  $p < .001$ . Attachment anxiety did not predict the proportion of thoughts expressed ( $B < .001$ ,  $p = .97$ ). Rejection condition, however, did significantly predict the proportion of thoughts expressed, such that those in the rejection condition expressed more inhibiting attractiveness thoughts than those in the non-rejection condition,  $B = .07$ ,  $t(98) = 3.69$ ,  $p < .001$ . However, this main effect was qualified by an interaction between anxiety and rejection condition,  $B = -.053$ ,  $t(98) = -3.63$ ,  $p < .001$ . Using a simple slopes analysis, I found that among women who were low in anxiety, those who were in the rejection condition were more likely to express inhibiting attractiveness thoughts than those who were in the non-rejection condition,  $B = .14$ ,  $t(98) = 5.27$ ,  $p < .001$ . Among women who were high in anxiety, there were no differences in the proportion of inhibiting attractiveness thoughts expressed between participants in the rejection condition and those in the non-rejection condition ( $B < .001$ ,  $p = .98$ ).

*Impelling Familiarity Thoughts.* The overall regression model predicting the proportion of impelling familiarity thoughts listed was not significant,  $R^2 = .04$ ,  $F(3, 98) = 1.35$ ,  $p = .26$ . Neither rejection condition nor attachment anxiety predicted the proportion of thoughts expressed ( $B = -.01$ ,  $p = .56$  and  $B = -.01$ ,  $p = .25$ , respectively). However, the interaction between anxiety and rejection condition did marginally predict the proportion of impelling familiarity thoughts listed,  $B = .02$ ,  $t(98) = 1.88$ ,  $p = .06$ . Using a simple slopes analysis, I found that among women who were low in anxiety, those who were in the rejection condition were marginally less likely to express impelling familiarity thoughts than those who were in the non-rejection condition,  $B = -.03$ ,  $t(98) = -1.78$ ,  $p = .08$ . Among women who were high in anxiety, the proportion of impelling familiarity thoughts expressed did not differ between participants in the rejection condition and those in the non-rejection condition ( $B = .02$ ,  $p = .36$ ).

*Impelling Respect Thoughts.* The overall regression model predicting the proportion of impelling respect thoughts listed was not significant,  $R^2 = .04$ ,  $F(3, 98) = 1.38$ ,  $p = .25$ . Rejection condition did not predict the proportion of thoughts expressed ( $B = -.002$ ,  $p = .73$ ). Attachment anxiety did significantly predict the proportion of impelling respect thoughts listed, such that women who were higher in attachment anxiety were more likely to endorse these types of thoughts,  $B = .01$ ,  $t(98) = 1.97$ ,  $p = .05$ . The interaction between attachment anxiety and rejection condition did not significantly predict the proportion of impelling respect thoughts listed ( $B = -.01$ ,  $p = .13$ ).

*Inhibiting Respect Thoughts.* The overall regression model predicting the proportion of inhibiting respect thoughts listed was marginally significant,  $R^2 = .07$ ,  $F(3, 98) = 2.50$ ,  $p = .06$ . Rejection condition did not significantly predict the proportion of

inhibiting respect thoughts expressed ( $B = .02, p = .35$ ). Attachment anxiety did significantly predict the proportion of thoughts expressed, such that higher levels of anxiety were associated with greater endorsements of such thoughts,  $B = .02, t(98) = 2.05, p = .04$ . However, this main effect was qualified by an interaction between anxiety and rejection condition,  $B = -.03, t(98) = -2.53, p = .01$ . Using a simple slopes analysis, I found that among women who were low in anxiety, those who were in the rejection condition were more likely to express inhibiting respect thoughts than those who were in the non-rejection condition,  $B = .06, t(98) = 2.51, p = .01$ . Among women who were high in anxiety, there were no differences in the proportion of inhibiting respect thoughts expressed between participants in the rejection condition and those in the non-rejection condition ( $B = -.03, p = .26$ ).

I found no other main effects of attachment anxiety or rejection condition and no other interactions between these two variables on any of the other thought content areas.

*Attitudes.* The overall regression model predicting attitudes toward condoms was not significant,  $R^2 = .05, F(3, 97) = 1.77, p = .16$ . Rejection condition did not significantly predict attitudes toward condoms ( $B = -.12, p = .49$ ). However, higher levels of anxiety predicted more negative attitudes toward condoms,  $B = -.22, t(97) = -2.23, p = .03$ .

Although I expected that the rejection condition to which participants were assigned would moderate the relationship between attachment anxiety and attitudes toward condoms, no such interaction was found ( $B = .20, p = .16$ ).

*Comfort with Discussing Condoms.* The overall regression model predicting participants' reported discomfort with discussing condoms while making out with their partner was not significant,  $R^2 = .04, F(3, 98) = 1.54, p = .21$ . Rejection condition did not

predict discomfort with discussing condoms ( $B = .15, p = .72$ ). However, attachment anxiety significantly predicted participants' reported discomfort with discussing condoms, such that higher levels of anxiety were related to higher levels of discomfort with condom discussion,  $B = .48, t(98) = 1.98, p = .05$ . In addition, the interaction between anxiety and rejection condition marginally predicted discomfort with discussing condoms,  $B = -.66, t(98) = -1.94, p = .06$ . A simple slopes analysis revealed that at high levels of anxiety, there were no significant differences in discussion discomfort between the two rejection conditions ( $B = -.69, p = .27$ ). However, at low levels of anxiety, participants in the rejection condition showed marginally greater discomfort with discussing condoms with their partner in the heat of the moment than participants in the non-rejection condition,  $B = .99, t(98) = 1.67, p = .10$ .

*Partner's Felt Trust.* The overall regression model predicting participants' reported worries that their partner would not feel trusted if a condom was insisted on was significant,  $R^2 = .13, F(3, 98) = 4.66, p = .004$ . Higher levels of anxiety were related to greater worries,  $B = .85, t(98) = 3.47, p = .001$ . No main effect of rejection condition and no interaction between attachment anxiety and rejection condition were found ( $B = .41, p = .34$  and  $B = -.54, p = .12$ , respectively).

*Justifications.* The overall regression model predicting participants' reported justifications for engaging in unprotected sex was not significant,  $R^2 = .05, F(3, 98) = 1.58, p = .20$ . Rejection condition was significantly related to justifications, such that participants in the non-rejection condition were more likely to endorse justifications for engaging in unprotected intercourse than participants in the rejection condition  $B = -.44, t(98) = -2.05, p = .04$ . No main effect of attachment anxiety and no interaction between

attachment anxiety and rejection condition were found ( $B = .05, p = .70$  and  $B = -.02, p = .93$ , respectively).

*Mood.* I found no main effects or interactions when using positive mood as the dependent variable.

The overall regression model predicting participants' negative mood was significant,  $R^2 = .11, F(3, 98) = 4.02, p = .01$ . Higher levels of anxiety were associated with higher levels of negative mood,  $B = .23, t(98) = 3.32, p = .001$ . Neither rejection condition nor the interaction between anxiety and rejection condition on negative mood were significant ( $B = .08, p = .53$  and  $B = -.17, p = .10$ , respectively).

I found no significant main or interaction effects among the remaining dependent measures.

## Discussion

Consistent with my hypothesis, I found that there was an interaction between attachment anxiety and rejection condition on participants' intentions to engage in unprotected sexual intercourse. By assessing the relationship between attachment anxiety and intentions to have unprotected sex between rejection conditions, it was apparent that my hypothesized interaction trend was supported. Among participants in the non-rejection condition, higher levels of attachment anxiety were marginally associated with weaker intentions to engage in unprotected sex. Consistent with my hypothesis, among participants in the rejection condition, higher levels of attachment anxiety were marginally associated with stronger intentions to engage in unprotected sex.

Interestingly, upon further investigation of this interaction using a simple slopes analysis, I found somewhat surprising results. I had originally predicted that women who

were high in anxiety would react to rejection by holding higher intentions to engage in unprotected sex than women who were high in anxiety but not rejected. My hypothesis was not supported. In fact, although the pattern of results found was consistent with my predictions such that highly anxious participants who were rejected had stronger intentions to engage in unprotected sex than their non-rejected counterparts, this finding was not significant. On the other hand, the significant interaction appears to be primarily driven by the intentions reported by women who were low in attachment anxiety. In particular, among participants who scored low in anxious attachment, those in the rejection condition reported significantly lower intentions to engage in unprotected intercourse than those in the non-rejection condition. Therefore, it appears as though the individuals who were low in anxiety showed an aversive reaction to potential partner rejection, leading to the refusal of unprotected intercourse, whereas the intentions of individuals who were high in anxiety were not as strongly affected by rejection (relative to the effects on women who were low in anxiety).

Inconsistent with my hypothesis, the relationship between attachment anxiety and attitudes toward condoms was not moderated by the rejection condition to which a participant was assigned. However, higher levels of anxiety were associated with more negative attitudes toward condoms, regardless of rejection condition, as is consistent with prior research (Feeney et al., 2000).

The thought listings provided by participants followed a general pattern of results that was theoretically consistent with participants' intentions ratings. Among women who were high in anxiety, there were no significant differences in the proportions of impelling or inhibiting thoughts listed between those in the rejection condition and those

in the non-rejection condition. However, among women who were low in anxiety, those who were in the rejection condition trended toward listing fewer impelling thoughts and more inhibiting thoughts than those in the non-rejection conditions. Interestingly, the proportion of impelling thoughts listed actually mediated the relationship between rejection condition and intentions to engage in unprotected sex for women who were low in attachment anxiety. That is, the rejection condition to which participants were assigned significantly predicted intentions to engage in unprotected sex when included as the sole predictor of intentions. However, once the proportion of impelling thoughts listed was partialled out of this relationship, rejection condition no longer predicted intentions ratings. Therefore, impelling thoughts fully mediated the finding that rejected participants reported weaker intentions to engage in unprotected sex relative to non-rejected participants among women who were low in attachment anxiety. Importantly, the reverse was also true, in that intentions fully mediated the relationship between rejection condition and the proportion of impelling thoughts listed. Upon further investigation, however, the original model with impelling thoughts as the mediator was a moderately stronger model than the reverse.

Similar patterns to the aforementioned interaction results emerged with regard to the content of thought listings. Among women who were high in anxiety, the proportions of inhibiting attractiveness, inhibiting respect, and impelling familiarity thoughts expressed did not significantly differ by rejection condition. However, among women who were low in anxiety, those in the rejection condition were significantly more likely to list inhibiting attractiveness and inhibiting respect thoughts and were less likely to list impelling familiarity thoughts than those in the non-rejection condition. However, it is

important to note that the interaction between attachment anxiety and rejection condition on impelling familiarity thoughts was only marginal. Therefore, once again, it appears as though women who were high in anxiety were not significantly affected by the rejection threat in their responses to the dependent measures. However, women who were low in anxiety appeared to react aversively to the rejection threat and responded with more inhibiting thoughts and fewer impelling thoughts.

In sum, all of these interactions for thought listings (along with the significant interaction on intentions to engage in unprotected sex) indicate that it is not primarily the women who are high in anxiety that are altering their sexual decision-making thoughts based on the presence of potential partner rejection. Instead, it is those women who are low in attachment anxiety that react aversively to the male character after reading the rejection vignette and refuse sexual intercourse with him, driving the aforementioned interactions between rejection condition and attachment anxiety.

Furthermore, among women who were low in anxiety, those in the rejection condition were less likely to list impelling attractiveness thoughts than those in the non-rejection condition. However, among women who were high in anxiety, the findings were reversed, such that those in the rejection condition were more likely to list impelling attractiveness thoughts than those in the non-rejection condition. Therefore, once again it was the women who were low in anxiety that were reacting negatively to the man presented in the rejection condition, finding him unattractive (with thoughts expressed in a sexually inhibiting manner). However, in this case, women who were high in attachment anxiety were actually more likely to list thoughts that they found the male

character attractive (in a sexually impelling manner) when reading the rejection vignette than when reading the non-rejection vignette.

Participants' discomfort with discussing condoms also showed the pattern of interaction results found for intentions and most of the aforementioned thought listings. Among women who were low in anxiety, those in the rejection condition were less comfortable with discussing condoms than those in the non-rejection condition. No significant differences in discomfort existed between the rejection and non-rejection conditions among women who were high in anxiety. Therefore, once again, it appears as though the rejection manipulation was unexpectedly affecting the responses of women who were low in attachment anxiety and not women who were high in attachment anxiety.

Other interesting main effects emerged when analyzing the thought listings as well as the remaining dependent measures. Participants in the non-rejection condition were more likely to list impelling risk thoughts and more likely to endorse justifications for engaging in unprotected sex than those in the rejection condition, suggesting that any risks of engaging in unprotected sex were minimized in the non-rejection condition. Not only did one's assignment to the non-rejection condition lead to a minimized interpretation of sexual risk, but high levels of attachment anxiety also appeared to have a similar effect. Women who were high in anxiety were marginally more likely to list impelling risk thoughts than women who were low in anxiety, indicating that attachment anxiety was marginally positively related to a reduced fear of risk. Upon the analysis of other dependent measures, the results provided further evidence for an increased likelihood that highly anxious individuals might be more willing to engage in unprotected

sex. Attachment anxiety was positively related to listings of impelling respect thoughts, indicating that highly anxious women addressed self-respect or respect from others in such a way that it promoted sexual intercourse. In addition, attachment anxiety was positively related to fears that the male character in the vignette would not feel trusted if unprotected sexual intercourse were refused.

In sum, although unexpected, the moderating effects of rejection on the relationship between attachment anxiety and sexual decision-making were found to stem mostly from the reactions of women who were low in attachment anxiety to rejecting and non-rejecting feedback. That is, women who were high in attachment anxiety were not significantly affected by the rejection condition to which they were assigned when rating their intentions, their thought listings, or their discomfort with discussing condoms, although intentions ratings were in the hypothesized direction (i.e., stronger intentions among rejected participants). Women who were low in anxiety, on the other hand, tended to react to rejection threat with reduced endorsements of sexually impelling responses on several measures, relative to those who were not rejected.

The fact that the moderating effects of rejection were present only for participants who were low in attachment anxiety was surprising, as the hypothesized interaction was based on literature that addresses the fears of rejection and abandonment among women who are high in attachment anxiety (e.g., Feeney & Noller, 1992; Mikulincer et al., 2004). Therefore, I expected highly anxious women to respond to potential rejection by giving in to their partner's requests so as to avoid rejection. Instead, it appears as though the women who were high in anxiety were not as strongly affected by the manipulated rejection as women who were low in anxiety.

One possible explanation for the unexpected direction of findings lies in the rejection manipulation used in this study. In the non-rejection vignette, the male character is very supportive of the female character's decision regarding condom use and he is not pressuring her to have unprotected sex. In the rejection condition, the male character is putting much more pressure on the female character and implies that he may end the relationship if unprotected sex is refused. Upon further reflection of this rejection manipulation, it is quite possible that the vignettes inadvertently manipulated attractiveness of the male character. In the non-rejection condition, the male character can be interpreted as kind, caring, and understanding. In the rejection condition, however, the man may seem sleazy, selfish, and untrustworthy. Therefore, in addition to manipulating rejection status, we may have also manipulated 'jerk status'. If this interpretation is true, then women who were low in anxiety seemed to be very willing to have unprotected sex with the nice guy but reacted aversively to the jerk and refused sex. On the other hand, women who were high in anxiety either were unable or unwilling to differentiate between the nice guy and the jerk or if they did make the distinction, they were still not significantly affected by it, as demonstrated by the similar levels of intentions reported among those who were and those who were not rejected.

As one might expect, it is difficult to manipulate potential rejection from a man without simultaneously manipulating aspects of his personality or character. In light of this limitation, future research could address this confound by changing the vignettes presented in Study One. In an attempt to separate the rejection from the reader's understanding of the male character, the rejection and non-rejection dialogue can be replaced with a less direct form of rejection and non-rejection. For instance, I am

currently conducting a study in which participants are asked to read that they themselves are worried that if they refuse sex, the male character might lose interest in them. Using this method, rejection is still made salient but does not as directly influence perceptions of the male character. Although the collected sample size to date for this study is too small to draw any definitive conclusions, the trends in reported intentions ratings are similar to those found in Study One. Therefore, there is the potential for further support of the finding that potential partner rejection significantly influences safer sex decisions among women who are low in attachment anxiety more so than among women who are high in attachment anxiety.

Importantly, the rejection manipulation used in Study One involved a rejection threat that was delivered directly from the sexual partner and in the context of sexual decision-making. Therefore, Study One assessed the moderating effects of potential partner rejection on the relationship between anxiety, intentions, and attitudes. Because the rejection threat came directly from the sexual partner in Study One, I felt as though a more general investigation of the effects of rejection would provide further insight into the influence of rejection on condom use. For instance, it is possible that merely presenting participants with the concept of rejection could subsequently influence their responses to the sexual decision-making questionnaires, regardless of the source of rejection. Based on the interaction findings of Study One, it could be argued that general feelings of rejection adversely affect women who are low in attachment anxiety (with regards to their decisions to have unprotected intercourse) but have little effect on those who are high in anxiety and that these feelings of rejection need not come directly from a romantic partner. Therefore, it could be the rejection itself, not the fact that it is

threatened from a romantic partner that is the driving force behind the aforementioned interactions between attachment anxiety and rejection condition on intentions, thought listings, and discomfort with discussing condoms.

Therefore, to follow-up the findings of Study One, I assessed whether the effects of rejection and anxiety found in Study One, after manipulating potential partner rejection, could be recreated using general social rejection. For the second study of my Master's thesis, I assessed whether it might be possible that the same moderating effects of rejection on the relationship between anxiety and intentions would exist if rejection that was unrelated to a romantic partner was made salient. Therefore, in Study Two, I explored the influence of general social rejection from one's peers on the relationship between anxiety and condom use.

## Chapter 3

### Study Two

Whereas attachment anxiety has been predominantly studied in the context of romantic relationships, it is important to note that attachment styles extend to non-romantic relationships as well. Baldwin, Keelan, Fehr, Ehns, and Koh-Rangarajoo (1996) discovered that individuals who were generally anxiously attached tended to report a higher proportion of relationships (both romantic and non-romantic) with qualities that are characteristic of anxious attachment and were quicker at identifying such relationships relative to their relationships that were secure or avoidant. Therefore, anxious attachment can be described as a general pattern of thinking toward relationships and the characteristics of an anxiously attached individual tend to spill over into more general social interactions, including those with one's peers. With this understanding, an individual who is high in anxious attachment will seek closeness with others, will be more fearful of rejection, and will react more aversively to rejection cues than one who is low in anxious attachment, both in the context of romantic relationships as well as in general everyday social interactions that are unrelated to romantic relationships. For example, Rom and Mikulincer (2003) found that attachment anxiety can extend to group processes. In their study, anxiously-attached individuals experienced a heightened pursuit of closeness goals in group interactions versus individuals who were low in anxiety. Similarly, Smith, Murphy, and Coats (1999) also found that highly anxious members of groups were more likely to pursue the goals and desires of the group after conflict occurred at the expense of their own wishes, as compared with participants who were low

in attachment anxiety. Smith et al.'s results were explained by highly anxious participants' concerns about acceptance within the group.

Furthermore, research has shown that individuals who are high in attachment anxiety are particularly sensitive to rejection information, even outside of the context of romantic relationships. Mikulincer, Birnbaum, Woddis, and Nachmias (2000) had participants complete a lexical decision task and found that highly anxious individuals experienced quicker access to words related to proximity and distance (e.g., acceptance and rejection) than individuals who were low in attachment anxiety. Baldwin and Kay (2003) found similar results. They arranged for participants to associate one tone with interpersonal rejection and another with interpersonal acceptance. Participants then performed a lexical decision task that included rejection and acceptance words while listening to the earlier presented tones. Response times to rejection and acceptance words were assessed and it was found that highly anxious individuals had a more difficult time inhibiting rejection expectations from the cued tones than individuals low in attachment anxiety. That is, participants who were low in attachment anxiety were slower in identifying rejection-related words than participants who were high in attachment anxiety. Other studies have found similar reactions on lexical decision tasks among people high in attachment anxiety (e.g., Mikulincer, Gillath & Shaver, 2002).

Therefore, attachment anxiety can be understood not only in the context of romantic relationships but can also be used to assess how individuals react to rejection in general social situations. In light of this fact, I decided to extend the findings of Study One to account for the impact of rejection in general. Whereas it is interesting that, in Study One, I found a moderating effect of potential partner rejection on the relationship

between attachment anxiety and condom use (i.e., intentions, thought listings, discomfort with discussing condoms), it is also worthwhile to explore whether the same findings would exist when general social rejection is introduced.

#### *General Social Rejection, Self-Defeating Behaviours, and Self-Regulation*

The need to belong has been described as a fundamental human need that drives individuals to seek and maintain intimate relationships with others (Baumeister & Leary, 1995). This need to belong is understood as being just as necessary to one's psychological functioning as the need for food and water is to one's physical functioning. Just as our hunger or thirst can be satiated by consuming food and water, our need to belong can be satiated by the existence of affectionate and fulfilling relationships in our lives. Also, just as the lack of food and water can lead to detrimental consequences in our health and well-being, so can the lack of intimate connections with other individuals (for a review see Baumeister & Leary, 1995).

It has been shown in previous research that the direct experience of social rejection or social exclusion influences individuals to behave in ways that are maladaptive. Twenge, Catanese, and Baumeister (2002) gave some of their participants bogus feedback that their personality characteristics (as assessed using a questionnaire) would likely lead them to be lonely later on in life. After receiving this feedback, these participants were subsequently more likely to exhibit self-defeating behaviours than participants who were not given such feedback. In particular, participants were given a choice between investing in one of two lotteries. The first lottery presented greater odds of winning but did not pay out a very large sum to the winners. The second lottery had greater chances of losing but the winning amount was much larger. Participants who were

led to believe that they would be socially excluded later in life were more likely to choose the risky but high paying lottery. As the likelihood of winning was much greater in the low paying lottery than in the high paying lottery, choosing the high paying lottery was considered to be a self-defeating behaviour. Similarly, the socially excluded participants were more likely to choose an unhealthy snack when given the choice between a granola bar or candy bar; another example of a self-defeating behaviour. Finally, some individuals were told that they would be participating in a study about healthy lifestyles. At one moment in the session, participants had a waiting period before the next portion of the study took place and while they waited, they were given the choice of either reading a magazine or filling out a health questionnaire that would be coded and returned with feedback on their responses. Participants who were induced to feel socially rejected were more likely to choose the magazine over the health questionnaire.

In similar studies, it has also been shown that social rejection reduces people's ability or willingness to engage in self-regulating behaviours. Baumeister, DeWall, Ciarocco, and Twenge (2005) defined self-regulation as "the capacity to control or alter one's responses." For example, a woman who is on a diet will need to exhibit self-regulation when she walks down the junk food aisle or a man who is studying for a test will need to exhibit self-control when all of his friends invite him out to a party. Despite how maladaptive it may be to give in to temptation, individuals often fail in their self-regulating efforts, demonstrating a weakness of self-control. Importantly, this weakness tends to arise more often in certain contexts than in others. A hypothesis of regulatory depletion has been proposed to explain why individuals are often unable to regulate their behaviour, implicating their inability to sustain multiple self-regulating behaviours at

once as the cause of their weakness at self-control (Muraven, Tice, & Baumeister, 1998). According to the hypothesis of regulatory depletion, self-regulation is a limited resource and once one uses up part of it on controlling certain behaviours, one then has less of that resource left over to help regulate behaviours in other domains. For example, a man who is trying to quit smoking, and is thus regulating his smoking behaviour, will have a harder time controlling his anger in aggravating situations than a man whose self-regulation resources are not depleted from efforts to quit smoking. Similarly, one's ability to self-regulate has also been described as a muscle that can become weakened if overused (Muraven & Baumeister, 2000). In this context, self-regulation can also become strengthened if exercised, just as a muscle can. Therefore, by practicing self-regulation, one's limited self-control resources increase in strength so that self-regulation in multiple domains becomes more possible.

Self-regulation has been shown to relate to social rejection. Baumeister et al. (2005) proposed self-regulation as a mechanism by which individuals ensure that they achieve social acceptance. In order to avoid social exclusion, individuals must often act in ways that require self-control; being polite to people they dislike, tempering their anger when they are aggravated, or adopting other socially desirable behaviours. Surprisingly, while it may be expected that an experience with social exclusion might lead an individual to improve self-regulating behaviours so as to repair his or her social relationships, the opposite tendency has actually been found. In particular, Baumeister et al. (2005) exposed participants to social exclusion and then assessed their self-regulatory behaviours on multiple measures. They found that participants who experienced rejection ate more cookies, were less willing to drink a healthy but bad-tasting beverage, and quit

sooner on a frustrating task than participants who did not experience such rejection. Therefore, the ability of individuals to self-regulate in a variety of domains was weakened as a result of experiencing social rejection. Perhaps the blow of social rejection caused participants to direct their self-regulatory efforts at controlling their emotional reactions to that rejection, leading to a reduction in regulating resources and thus the loss of control in other areas.

In understanding self-defeating behaviour and self-regulation, it is important to note how relevant both of these factors are in the context of sexual health. Because of the high risks associated with having unprotected sex, having intercourse without a condom can be understood as a potentially self-defeating behaviour causing an individual to expose him or herself to STI's or an unwanted pregnancy. At the same time, sexual encounters that involve high degrees of arousal often tempt individuals to engage in unprotected sex as part of 'the heat of the moment,' particularly when a condom is not readily available. Therefore, in order to refrain from unprotected sexual behaviour, one must exercise self-control and regulate sexual impulses.

In light of the research on social rejection and its link to increased self-defeating behaviour and impaired self-regulation, I proposed that such rejection would have a direct influence on individuals' intentions to use a condom. In particular, I expected to find a main effect of rejection condition on intentions to engage in unprotected intercourse, such that women who were socially rejected would report stronger intentions to have unprotected sex than women who were not rejected. Furthermore, because attachment anxiety has been associated with an exaggerated sensitivity to rejection cues and a heightened desire for closeness (as described in the aforementioned studies), I

predicted that attachment anxiety would interact with social rejection to influence one's intentions to use condoms. I expected that among women in the rejection condition, attachment anxiety would be positively related to intentions to have unprotected sex, as was the case in Study One. Specifically, I reasoned that highly anxious women who were rejected in one realm (in this case by their peers) would aim to seek closeness in another realm (with a sexual partner) and would thus report stronger intentions to have unprotected sex with a romantic partner so as to prevent further rejection. However, in the non-rejection condition, I expected that attachment anxiety would not be associated with intentions to engage in unprotected sex or that the association would be weaker than that in the rejection condition. More specifically, I expected that among women who were high in attachment anxiety, those in the rejection condition would be more likely to report intentions to engage in unprotected sex than those in the non-rejection condition and that among women who were low in attachment anxiety, intentions ratings would not differ by rejection condition.

My interaction prediction for Study Two was in the same direction as my prediction for Study One. However, it is important to note that the pattern of results found in Study One was different from what I had originally expected. In Study One, the intentions ratings among women who were high in attachment anxiety were not significantly affected by rejection condition, although the findings trended toward stronger intentions among those who were rejected. On the other hand, intentions ratings among women who were low in attachment anxiety were significantly higher in the non-rejection condition than in the rejection condition. In the case of Study One, the threat of potential partner rejection came directly from the sexual partner and was related to the

same situation for which a decision needed to be made regarding unprotected sexual activity. Therefore, it could be the case that women low in anxiety would be more affected in later decision-making by direct sources of threat than women high in anxiety. That is, when the decision of whether to have sex is followed with a rejection threat directly from the sexual partner, women who are low in anxiety may be more affected by the fact that the partner, himself, is making the threat as opposed to the fact that rejection, in general, is present. The same may not be true when the rejection threat does not fit the decision-making context. For Study Two, the experienced rejection was from a source that was unrelated to the sexual decision-making context, thus making rejection, in general, salient and decision-specific rejection irrelevant. I argued therefore that highly anxious women would react the most aversively to general social rejection because they are the most sensitive to it and will want to avoid it in future encounters. Study Two will therefore offer a second test of my original interaction hypothesis. If, however, the results of Study Two replicate those found in Study One, I will revise future hypotheses in this area of research.

Because I did not find a significant interaction between attachment anxiety and rejection on participants' attitudes toward condoms in Study One, I made no strong predictions that there would be such an interaction in Study Two.

## Method

### *Participants*

Seventy-eight female participants who were enrolled in the Queen's University Introductory Psychology class ( $n = 71$ ) or who were students from other classes and agreed to be contacted for participation in Psychology studies for payment ( $n = 7$ ) were

selected to participate in the study. As in Study One, I selected participants based on their responses to pre-screening questions administered to students during class and only those students who were sexually active, regular condom users, and not in a steady relationship were asked to participate. Participants also completed the Attachment in Close Relationships Questionnaire as part of the pre-screening measures (Brennan, et al., 1998). Both subscales were reliable, (anxiety: Cronbach  $\alpha = .94$ , avoidance: Cronbach  $\alpha = .89$ ) and were uncorrelated with one another,  $r(76) = -.06, p = .62$ .

### *Procedure*

Upon entering the lab, participants provided informed consent and then were randomly assigned to one of two conditions: rejection or non-rejection.

In a method borrowed from Twenge, Baumeister, Tice, and Stucke (2001), participants were led to believe that they would be participating in a group problem-solving task as part of a study on group interactions. They were told that the researcher would break them up into groups of either two or three and then the groups would be administered a problem-solving task. Participants were told that the problem-solving task would be completed using a paper-and-pencil interaction between partners instead of talking. In particular, the researcher explained that instead of audio-taping the groups' discussions, she would keep a record of the interaction by having participants write back-and-forth to one another. This was done so that participants would not be suspicious when they did not hear anyone talking in the room next to them.

At the outset of the study session, groups of four to eight women were asked to participate in a get-acquainted task, consisting of non-intrusive icebreaker questions relating to their personal lives and interests. After 5 minutes of discussion, participants

were separated into individual rooms and were asked to choose the top two other members from the discussion group that they preferred to work with on the problem-solving task. After choosing their potential partners, participants were given individual feedback on the other participants' choices. Participants in the rejection condition were told that *none* of the other group members chose them to be their partner and therefore they were asked to complete an individual task. Participants in the non-rejection condition were told that *all* of the other group members chose them to be their partner so they were exempt from the partner activity and asked to complete an individual task. Therefore, each participant was told that she must work alone but those in the rejection condition thought it was because they were not liked whereas those in the non-rejection condition thought it is because they were too well liked.

All participants were then given a paper-and-pencil questionnaire package consisting of the same questionnaires described in Study One. On the first page of the package, participants were told that they would be reading a vignette and when doing so, they were asked to imagine themselves as the female character in the scenario. Unlike Study One, only one version of the vignette was administered to participants. The vignette in Study Two was identical to the vignettes used in Study One except for the concluding paragraph. In Study One, the concluding paragraph of the vignette introduced the rejection or non-rejection manipulation, whereas in Study Two, the concluding paragraph was vague and did not imply any potential partner rejection (for the complete vignette, see Appendix F): "You ask him 'so, what do you think we should do' and he replies 'I don't know, what do you think?'"

### *Dependent Measures*

The remainder of the package was identical to that administered in Study One (see Appendix C). The correlations between all dependent measures (excluding the thought listings) are listed in Appendix G. The means and standard deviations associated with each dependent measure (excluding the thought listings) are listed in Appendix H. All one-item dependent measures were identical to those described in Study One. The reliability statistics associated with thoughts coding and multi-item dependent measures are outlined below.

*Thought Listings.* As with Study One, directly after reporting their intentions and before reporting their attitudes, participants were asked to list up to eight factors that influenced their intentions rating. Thought listings were coded using the same template used in Study One (MacDonald, Fong, Zanna & Martineau, 2000) that assesses both the valence (impelling versus inhibiting) and the specific content (e.g., risks, arousal, personal rules, past experience, etc.) of each statement. The thought listings were coded by two researchers and high interrater reliability was achieved (valence: kappa = .96, content: kappa = .82). Any disagreements in coding were resolved through discussion between the coders.

*Attitudes.* The same items used in Study One to assess attitudes toward condoms were used in Study Two. Just as with Study One, items were reverse coded where appropriate, such that higher ratings reflected more positive attitudes toward condom use. The 11 items on the scale were highly correlated (Cronbach  $\alpha = .81$ ), and so were aggregated to form a composite attitude score.

*Rejection.* The same six items used in Study One to assess participants' fears of

rejection if intercourse were refused showed high internal consistency (Cronbach's  $\alpha = .91$ ) and so were aggregated into one scale.

*Justifications.* The same seven items used in Study One to assess the justifications used to influence individuals not to use a condom in the situation presented showed satisfactory internal consistency (Cronbach's  $\alpha = .74$ ) and so were aggregated into one scale.

*AIDS/STIs.* The same two items used in Study One to assess participants' consideration of AIDS and STI prevention through the use of a condom were significantly correlated,  $r(78) = .74, p < .001$ , and so were combined.

*Mood.* Participants were also asked to complete the Positive and Negative Affect Schedule (PANAS) to assess their positive affect (PA) and negative affect (NA), (Watson et al., 1988). Both subscales were reliable (NA: Cronbach's  $\alpha = .83$ , PA: Cronbach's  $\alpha = .85$ ) and uncorrelated,  $r(76) = .09, p = .44$ , as is typical of results from previous research and scale design (Watson et al., 1988).

## Results

As stated in my hypothesis, I expected to find an interaction between attachment anxiety and rejection condition on participants' reported intentions to have unprotected sex.

Following the recommendations made by Aiken and West (1991), I conducted a multiple regression analysis on each of the dependent measures to assess the main effects of and interactions between attachment anxiety, attachment avoidance and rejection condition. Just as with Study One, for the rejection variable, the non-rejection condition was coded as 0 and rejection condition was coded as 1. Next, both anxiety and avoidance

scores were mean centered so as to reduce multicollinearity. I then computed two- and three-way interaction terms using the mean centred anxiety and avoidance scores and the rejection condition variable.

Once again, because I did not make any predictions regarding attachment avoidance or the interaction between avoidance and any other predictors, only rejection condition, attachment anxiety and the interaction between condition and anxiety are included as predictors in the following analyses. Just as with Study One, however, I separately assessed all of the following dependent variables by including attachment avoidance and all of its interactions as predictors in the regression analyses. Importantly, the results of these analyses did not differ greatly in interpretation from those presented below.

For all of the following dependent variable results, I report the main effect of attachment anxiety, the main effect of rejection condition, and the interaction between attachment anxiety and rejection condition. When I find a significant interaction between rejection condition and anxiety, I decompose it using a simple slopes analysis, following the recommendations made by Aiken and West (1991).

*Intentions.* The overall regression model predicting participants' intentions to engage in unprotected sex was not significant,  $R^2 = .03$ ,  $F(3, 75) = .74$ ,  $p = .53$ . Inconsistent with my hypotheses, there were no significant main effects of anxiety ( $B = .34$ ,  $p = .22$ ) or rejection condition ( $B = .23$ ,  $p = .68$ ) and no significant interaction between anxiety and rejection condition ( $B = -.17$ ,  $p = .65$ ) on intentions to engage in unprotected sex.

*Attitudes.* The overall regression model predicting participants' attitudes toward condoms was significant,  $R^2 = .10$ ,  $F(3, 75) = 2.93$ ,  $p = .04$ . Higher levels of attachment anxiety predicted more negative attitudes toward condoms,  $B = -.20$ ,  $t(75) = -2.30$ ,  $p = .02$ . Rejection condition did not predict attitudes toward condoms ( $B = -.26$ ,  $p = .16$ ) nor did the interaction between rejection condition and attachment anxiety ( $B = .12$ ,  $p = .33$ ).

*Valence of Thought Listings.* Only the results for the proportion of impelling thoughts are provided here, as reporting the results for the proportion of inhibiting thoughts would be redundant. The overall regression model predicting the proportion of impelling thoughts listed was not significant,  $R^2 = .06$ ,  $F(3, 75) = 1.74$ ,  $p = .17$ . Higher levels of attachment anxiety marginally predicted greater tendency toward listing impelling thoughts,  $B = .07$ ,  $t(75) = 1.70$ ,  $p = .09$ . Neither the rejection condition nor the interaction between rejection condition and anxiety predicted the proportion of impelling thoughts listed ( $B = .08$ ,  $p = .37$  and  $B = -.03$ ,  $p = .64$ , respectively).

#### *Content of Thought Listings*

For each content category, I analyzed whether attachment anxiety, rejection condition, and the interaction between them predicted impelling thoughts for that content category and inhibiting thoughts for that content category. The results of these analyses are reported below.

*Inhibiting Attractiveness Thoughts.* The overall regression model predicting the proportion of inhibiting attractiveness thoughts listed was significant,  $R^2 = .11$ ,  $F(3, 75) = 3.22$ ,  $p = .03$ . Neither the rejection condition nor attachment anxiety predicted the proportion of inhibiting attractiveness thoughts expressed ( $B = .003$ ,  $p = .28$  and  $B < .001$ ,  $p = 1.00$ , respectively). However, the interaction between attachment anxiety and

rejection condition was significant,  $B = .004$ ,  $t(75) = 1.96$ ,  $p = .05$ . Using a simple slopes analysis, I found that among women who were low in anxiety, there was no difference in the proportion of inhibiting attractiveness thoughts listed in the rejection condition and in the non-rejection condition, ( $B = -.003$ ,  $p = .55$ ). Among women who were high in anxiety, those who were in the rejection condition were more likely to express inhibiting attractiveness thoughts than those who were in the non-rejection condition,  $B = .009$ ,  $t(75) = 2.24$ ,  $p = .03$ .

*Impelling Attractiveness Thoughts.* The overall regression model predicting the proportion of impelling attractiveness thoughts listed was not significant,  $R^2 = .06$ ,  $F(3, 75) = 1.51$ ,  $p = .22$ . Attachment anxiety marginally predicted impelling attractiveness thoughts, such that more thoughts were expressed among participants who were high in attachment anxiety than among those who were low in attachment anxiety,  $B = .03$ ,  $t(75) = 1.68$ ,  $p = .10$ . Neither the rejection condition nor the interaction between rejection condition and attachment anxiety predicted the proportion of impelling attractiveness thoughts listed ( $B = .04$ ,  $p = .23$  and  $B = -.03$ ,  $p = .17$ , respectively).

*Inhibiting Past Thoughts.* The overall regression model predicting the proportion of inhibiting past-related thoughts was not significant,  $R^2 = .07$ ,  $F(3, 75) = 1.89$ ,  $p = .14$ . Rejection condition did not predict the proportion of thoughts expressed ( $B = -.01$ ,  $p = .64$ ). Higher levels of attachment anxiety were marginally associated with a greater proportion of inhibiting past-related thoughts expressed,  $B = .01$ ,  $t(75) = 1.73$ ,  $p = .09$ . However, this main effect was qualified by an interaction between anxiety and rejection condition,  $B = -.02$ ,  $t(75) = -2.33$ ,  $p = .02$ . Using a simple slopes analysis, I found that among women who were low in anxiety, those who were in the rejection condition

trended toward being more likely to express inhibiting past-related thoughts than those who were in the non-rejection condition,  $B = .03$ ,  $t(75) = 1.63$ ,  $p = .11$ . Among women who were high in anxiety, those who were in the rejection condition were significantly less likely to express inhibiting past-related thoughts than those who were in the non-rejection condition,  $B = -.04$ ,  $t(75) = -2.43$ ,  $p = .02$ .

*Impelling Future Thoughts.* The overall regression model predicting the proportion of impelling future-related thoughts was significant,  $R^2 = .11$ ,  $F(3, 75) = 3.12$ ,  $p = .03$ . Attachment anxiety did not predict the proportion of thoughts expressed ( $B < .001$ ,  $p = .94$ ). Participants in the rejection condition expressed marginally more impelling future-related thoughts than participants in the non-rejection condition,  $B = .02$ ,  $t(75) = 1.70$ ,  $p = .09$ . The interaction between anxiety and rejection condition was marginally significant,  $B = .01$ ,  $t(75) = 1.66$ ,  $p = .10$ . Using a simple slopes analysis, I found that among women who were low in anxiety, those who were in the rejection condition did not differ in the proportion of impelling future-related thoughts expressed from those in the non-rejection condition ( $B = .001$ ,  $p = .97$ ). Among women who were high in anxiety, those who were in the rejection condition were significantly more likely to express impelling future-related thoughts than those who were in the non-rejection condition,  $B = .04$ ,  $t(75) = 2.48$ ,  $p = .02$ .

*Inhibiting Future Thoughts.* The overall regression model predicting the proportion of inhibiting future-related thoughts was significant,  $R^2 = .11$ ,  $F(3, 75) = 3.12$ ,  $p = .03$ . Rejection condition did not predict the proportion of thoughts expressed ( $B = -.02$ ,  $p = .23$ ). Higher levels of attachment anxiety predicted more inhibiting future-related thoughts,  $B = -.02$ ,  $t(75) = -.21$ ,  $p = .04$ . However, this main effect was qualified by a

marginal interaction between anxiety and rejection condition,  $B = .02$ ,  $t(75) = 1.86$ ,  $p = .07$ . Using a simple slopes analysis, I found that among women who were high in anxiety, those who were in the rejection condition did not differ in the proportion of inhibiting future-related thoughts expressed from those in the non-rejection condition ( $B = .007$ ,  $p = .77$ ). Among women who were low in anxiety, those who were in the rejection condition were significantly less likely to express inhibiting future-related thoughts than those who were in the non-rejection condition,  $B = -.05$ ,  $t(75) = -2.15$ ,  $p = .04$ .

*Inhibiting Familiarity Thoughts.* The overall regression model predicting the proportion of inhibiting familiarity thoughts listed was marginally significant,  $R^2 = .09$ ,  $F(3, 75) = 2.36$ ,  $p = .08$ . Higher levels of attachment anxiety were marginally associated with fewer inhibiting familiarity thoughts expressed,  $B = -.02$ ,  $t(75) = -1.94$ ,  $p = .06$ . Neither rejection condition nor the interaction between rejection condition and attachment anxiety predicted the proportion of thoughts expressed ( $B = -.03$ ,  $p = .16$  and  $B = .01$ ,  $p = .46$ , respectively).

I found no other main effects of attachment anxiety or rejection condition and no other interactions between these two variables on any of the other thought content areas.

*Consider other Options.* The overall regression model predicting participants' intentions to 'make out' instead of engaging in intercourse was significant,  $R^2 = .10$ ,  $F(3, 75) = 2.87$ ,  $p = .04$ . Rejection condition did not predict intentions to 'make out' instead of have sex ( $B = .50$ ,  $p = .30$ ). However, higher levels of anxiety predicted weaker intentions to 'make out' instead of engage in intercourse,  $B = -.63$ ,  $t(74) = -2.67$ ,  $p = .01$ . The interaction between rejection condition and attachment anxiety did not predict intentions to 'make out' instead of engage in sexual intercourse ( $B = .43$ ,  $p = .19$ ).

*Comfort with Discussing Condoms.* The overall regression model predicting participants' feelings of discomfort with discussing condoms was not significant,  $R^2 = .05$ ,  $F(3, 75) = 1.44$ ,  $p = .24$ . Neither attachment anxiety nor rejection condition predicted reported feelings of discomfort. However, an interaction between anxiety and rejection condition marginally predicted discomfort with discussing condoms,  $B = .54$ ,  $t(75) = 1.71$ ,  $p = .09$ . A simple slopes analysis revealed that at low levels of anxiety, there were no significant differences in discussion discomfort between the two rejection conditions ( $B = -.44$ ,  $p = .51$ ). However, at high levels of anxiety, participants in the rejection condition showed marginally greater discomfort in discussing condoms with their partner in the heat of the moment than participants in the non-rejection condition,  $B = 1.17$ ,  $t(75) = 1.83$ ,  $p = .07$ .

*Partner's Felt Trust.* The overall regression model predicting participants' reported worries that their partner would not feel trusted if unprotected sex were refused was significant,  $R^2 = .10$ ,  $F(3, 75) = 2.81$ ,  $p = .04$ . Participants in the rejection condition had marginally greater worries than participants in the non-rejection condition,  $B = 1.00$ ,  $t(75) = 1.88$ ,  $p = .06$ . Neither attachment anxiety nor the interaction between rejection condition and anxiety predicted participants' reported worries that their partner would not feel trusted ( $B = -.08$ ,  $p = .76$  and  $B = .60$ ,  $p = .10$ , respectively).

*Mood.* I found no main effects or interactions when using positive mood as the dependent variable.

The overall regression model predicting participants' negative mood was significant,  $R^2 = .12$ ,  $F(3, 75) = 3.46$ ,  $p = .02$ . Rejection condition did not predict negative mood ( $B = .16$ ,  $p = .33$ ). Higher levels of anxiety were associated with higher levels of

negative mood,  $B = .24$ ,  $t(75) = 2.96$ ,  $p = .004$ . A significant interaction was found between attachment anxiety and rejection condition on expressed negative moods,  $B = -.29$ ,  $t(75) = -2.58$ ,  $p = .01$ . A simple slopes analysis revealed that at high levels of anxiety, there were no significant differences in expressed negative mood between the two rejection conditions ( $B = -.15$ ,  $p = .53$ ). However, at low levels of anxiety, participants in the rejection condition showed more negative moods than participants in the non-rejection condition,  $B = .54$ ,  $t(75) = 2.27$ ,  $p = .03$ .

*Rejection.* Although not part of my original hypotheses, an interesting result was found when exploring the effects of attachment anxiety and social rejection on worries of potential partner rejection if sex is refused in the vignette. The overall regression model predicting participants' fear of future rejection from the male partner in the vignette was significant,  $R^2 = .14$ ,  $F(3, 75) = 4.14$ ,  $p = .01$ . Neither Rejection condition nor attachment anxiety predicted fears of partner rejection ( $B = .19$ ,  $p = .61$  and  $B = .04$ ,  $p = .82$ , respectively). However, a significant interaction was found between attachment anxiety and rejection condition,  $B = .55$ ,  $t(75) = 2.21$ ,  $p = .03$ . A simple slopes analysis revealed that at low levels of anxiety, there were no significant differences in fears of partner rejection between the two rejection conditions ( $B = -.60$ ,  $p = .26$ ). However, at high levels of anxiety, participants in the rejection condition showed marginally greater fears of partner rejection than participants in the non-rejection condition,  $B = .98$ ,  $t(75) = 1.94$ ,  $p = .06$ , indicating that among participants who were high in attachment anxiety, those who were socially rejected later experienced a heightened fear of rejection in a separate romantic context, whereas those who were not rejected did not.

I found no significant main or interaction effects among the remaining dependent measures.

### Discussion

Because social rejection leads individuals to act in self-defeating ways that exhibit a reduction in self control (e.g., Baumeister et al., 2005; Twenge et al., 2002), I expected that participants in the rejection condition would show stronger intentions to have unprotected sex than those in the non-rejection condition. This hypothesis was not supported. I also expected the main effect of rejection to be qualified by an interaction with anxiety, such that intentions to have unprotected sex would be stronger among highly anxious women who were rejected than among women who were low in anxiety and rejected because highly anxious women were predicted to act in ways to reduce the likelihood of future rejection. Again, this hypothesis was not supported. Inconsistent with my prediction, I found that intentions to engage in unprotected sex were not influenced by rejection condition, attachment anxiety, or the interaction between them.

As was the case with Study One, the interaction between attachment anxiety and rejection condition did not predict attitudes toward condoms; the relationship between rejection condition and attitudes toward condom use was not moderated by levels of attachment anxiety. Also consistent with the findings of Study One, attachment anxiety predicted attitudes toward condoms, such that higher levels of attachment anxiety were associated with more negative attitudes. This finding therefore suggests that attachment anxiety may lead one to be at greater risk for engaging in unprotected sex. Consistent with this idea, attachment anxiety was also negatively related to intentions to make out instead of engage in intercourse and positively related to discomfort with discussing

condoms (in the rejection condition only). Furthermore, attachment anxiety was marginally positively related to the proportion of overall impelling thoughts listed as well as the proportion of impelling attractiveness thoughts listed and marginally negatively related to the proportion of inhibiting familiarity thoughts listed. All of these trends exhibited by women who are high in attachment anxiety could ultimately have a negative influence on safer sex decisions.

Interactions found between attachment anxiety and rejection condition also provided evidence for risky sexual health thoughts among women who were high in attachment anxiety and who were also socially rejected. Among participants who were high in anxiety, those in the rejection condition were significantly less likely to express inhibiting past-related thoughts than women in the non-rejection condition (whereas the findings were reversed among women who were low in attachment anxiety) and were marginally more likely to express impelling future-related thoughts and marginally less likely to express inhibiting future-related thoughts than women in the non-rejection condition (whereas there was no difference in the proportion of thoughts listed among women who were high in anxiety).

On the other hand, some findings suggested the potential for attachment anxiety to be associated with a reduced tendency for expressing risky thoughts. Anxiety was marginally positively associated with inhibiting past-related thoughts and significantly positively associated with inhibiting future thoughts. Furthermore, among women who were high in anxiety, those who were rejected were actually more likely to express inhibiting attractiveness thoughts than those who were not rejected. Therefore, the

findings of Study Two provide mixed evidence for the role of attachment anxiety, either alone or interacting with social rejection, on decision-making relating to condom use.

In addition, although I predicted that social rejection would lead to an increased likelihood of risky sexual intentions, thoughts, and attitudes, I found very little evidence for this hypothesis. In particular, participants in the rejection condition expressed marginally more impelling future-related thoughts and had marginally greater worries that their partner would not feel trusted than participants in the non-rejection condition.

Finally, through exploratory analyses, I found evidence for a potential transfer of rejection among women who were high in attachment anxiety. Among these women, those who were rejected by their peers experienced greater fears of rejection from the romantic partner in the vignette if unsafe sex were refused than women who were not rejected. That is, only those women who were high in anxiety and who were socially rejected viewed the vignette as potentially threatening with regard to rejection, as compared to women who were low in anxiety or who were high in anxiety but not rejected.

Whereas the relationship between attachment anxiety and intentions to engage in unprotected sexual intercourse was moderated by potential partner rejection in Study One, the results of Study Two, which employed general social rejection, did not replicate this finding. In fact, attachment anxiety, rejection condition, and the interaction between these two variables did not predict intentions to engage in sex without a condom. There are several possible reasons for this nonsignificant finding. It is possible that general social rejection on its own or interacting with attachment anxiety actually has no impact on later sexual decision-making. That is, rejection threats that come directly from one's

romantic partner in the context of a sexual encounter may impact risky sexual decision-making because it is more relevant to the decision regarding condom use than is general social rejection. In this case, general social rejection may not be enough to elicit changes in decision-making behaviour within a separate context. However, if this explanation is true, then it is important to note that Study Two differed from Study One in the level of rejection experienced by participants. That is, in Study One, participants were exposed to a threat of potential future rejection but in Study Two, actual rejection was experienced. It may be the case that attachment anxiety affects sexual decision-making differently when rejection has occurred in the past versus when rejection is foreseen as possible in the future. Therefore, future research should attempt to replicate the current findings, adjusting for the level of rejection (either threatened or experienced) as a possible confound.

It is also possible, however, that the rejection manipulation used in Study Two was not effective at eliciting the desired feelings of rejection. In the literature, experienced rejection has been shown to elicit several types of self-defeating behaviour that demonstrate a deficiency in self-control, including unhealthy food choices, a reduced interest in personal health, and a decline in cognitive perseverance (Baumeister et al., 2005; Twenge et al., 2002). In the case of Study Two, no indications of reduced self-control or heightened self-defeating behaviours were exhibited. Participants who were socially rejected were no more likely to report intentions to engage in risky sexual intercourse than those who were not rejected. Therefore, it could either be the case that condom use decisions are not as easily affected by social rejection as eating or health behaviours or that the rejection manipulation used in Study Two was not strong enough

to elicit the appropriate feelings of rejection. Future research should assess whether other social rejection procedures can influence risky sexual decision-making.

## Chapter 4

### General Discussion and Conclusions

Unprotected sexual behaviours are common among adolescents and young adults, leading to increased risks of contracting an STI or becoming unexpectedly pregnant among individuals in this population (Dehne & Reider, 2005). Adolescent girls, in particular, show a tendency toward feeling unable to insist on the use of protection during sex. For this reason, it is important to assess factors that influence condom use decisions among female adolescents in order to learn who is most vulnerable to engaging in risky sexual behaviours and how these behaviours might be changed.

The current line of research acts as an important addition to the existing literature on attachment styles and sexual behaviour. As previously noted, there is little research on how attachment styles influence sexual interactions among romantic partners. Furthermore, the few studies that do address this issue are non-experimental in nature and therefore do not address any causal mechanisms through which sexual behaviours are affected by attachment. The overall consensus in the correlational literature is that high levels of attachment anxiety are positively related to risky sexual behaviours, including reduced levels of reported condom use and more negative attitudes toward condoms (Feeney et al., 1999; Feeney et al., 2000). By investigating possible moderating factors through which attachment anxiety is negatively related to intentions, I aimed to contribute to the existing literature on attachment and sexual behaviour and to extend the scientific understanding of individual differences in sexual health behaviour. In doing so, I made one of the first attempts at experimentally investigating causal factors involved in

the relationship between high anxiety and low condom use that has been reported in previous research.

In Study One, I manipulated potential romantic partner rejection if unsafe sex were refused. As expected, I found evidence for a moderating effect of rejection on the relationship between attachment anxiety and intentions to use condoms. Among women who were not rejected, higher levels of attachment anxiety marginally predicted weaker intentions to engage in unprotected sex. Alternatively, among women who were rejected, higher anxiety was marginally associated with stronger intentions to engage in unprotected sex. Surprisingly, however, it appeared as though the moderating effects of rejection were driven primarily by those participants who were low in attachment anxiety. Originally I expected that highly anxious women would respond to potential rejection with increased intentions to engage in unprotected sex so as to avoid rejection. In fact, highly anxious women who were rejected did not significantly differ in their reported intentions from those who were not rejected (although the pattern of results was consistent with my predictions) On the other hand, the impact of rejection condition on intentions to have unprotected sex was more relevant to women who were low in attachment anxiety. Among these women, those in the non-rejection condition were significantly more likely to hold intentions to have unprotected sex than those in the rejection condition. Therefore, potential partner rejection appeared to influence condom use intentions among women who were low in attachment anxiety more so than among women who were high in attachment anxiety.

However, these unexpected interaction results found in Study One could potentially be explained by viewing the rejection manipulation in a new light. Upon

further reflection, the rejection manipulation used in Study One may have inadvertently influenced participants' perceptions of the male character as being either a nice guy or a jerk. With this understanding in mind, participants who were low in attachment anxiety may have been willing to have unprotected sex with a nice guy but reacted aversively to the jerk and refused intercourse. On the other hand, the intentions ratings of women who were high in attachment anxiety were not significantly affected by this nice guy or jerk distinction. Ongoing research in this area will give further insight as to whether rejection itself was the cause of the unexpected interaction results in Study One or whether the personality characteristics of the vignette's male character led only those women who were low in attachment anxiety to be significantly affected by the rejection manipulation used. Specifically, I am currently attempting to replicate the findings of Study One using a similar rejection vignette, only removing the dialogue so as to reduce the potential personality inferences made about the male character by participants.

In Study Two, I assessed the interaction between rejection and attachment anxiety on sexual decision-making using a more general investigation of the effects of rejection. Instead of manipulating partner rejection, in Study Two I manipulated general social rejection from one's peers to assess the impact of rejection in general on condom use. Whereas the relationship between attachment anxiety and intentions to engage in unprotected sexual intercourse was moderated by potential partner rejection in Study One, the results of Study Two, which employed general social rejection, did not replicate this finding. In fact, neither attachment anxiety, rejection condition, nor the interaction between these two variables predicted intentions to engage in sex without a condom.

It is difficult to draw conclusions from a null effect, therefore it is unclear whether or not general social rejection truly has no influence (either alone or interacting with attachment anxiety) on condom use behaviours. Furthermore, other secondary findings from Study Two assessing the impact of attachment anxiety on sexual decision-making were mixed. In some cases, attachment anxiety was related to increased levels of sexual risk (e.g., more negative attitudes toward condoms, more discomfort with discussing condoms, and fewer inhibiting thought listings) whereas in other cases, attachment anxiety was related to lower levels of sexual risk (e.g., more inhibiting past, inhibiting future, and inhibiting attractiveness thoughts).

There are multiple reasons why the significant interaction between attachment anxiety and rejection condition on intentions to engage in unprotected sex was not replicated from Study One to Study Two. Although this finding could indicate that general social rejection does not impact sexual decision-making in the same way as partner rejection, it is difficult to draw such conclusions based on nonsignificant effects. Before concluding that general social rejection does not interact with attachment anxiety to influence condom use intentions, future research should attempt to replicate Study Two using a different rejection manipulation. This replication is important because based on previous literature, social rejection was predicted to increase self-defeating behaviours and reduce self-control (Baumeister et al., 2005; Twenge et al., 2002), however no such main effect of rejection condition on intentions to engage in unprotected sex was found. Therefore, other methodologies that manipulate social rejection may be more appropriate when designing a conceptual replication of Study Two. For instance, Twenge et al. (2001) successfully manipulated feelings of social rejection by telling participants that

they would end up being lonely later in life. Participants completed a personality questionnaire and then were given feedback on their results. Feedback either reflected social acceptance (e.g., “You’re the type who has rewarding relationships throughout life”) or social rejection (e.g., “You’re the type who will end up alone later in life”) and it was found that participants who were rejected were less able to control their aggressive behaviour than those who were accepted. This alternative rejection manipulation may be appropriate to administer prior to the condom vignette and questionnaire used in Study Two as another attempt to assess the interaction between rejection and attachment anxiety on intentions to engage in unprotected sex. In addition to simply assessing whether a different type of rejection manipulation may lead to different results from those found in Study Two, another benefit of using this alternative manipulation is that it addresses potential *future* social rejection which is arguably more similar to the potential *future* partner rejection addressed in Study One than is the *experienced* social rejection used in Study Two.

Other areas of future research inspired by the findings of Study Two could assess how rejection in one area of life can influence expectations for future rejection in other areas of life. Although not part of my hypotheses, I found through exploratory analyses that highly anxious women who were socially rejected by their peers experienced greater fears of future rejection from the romantic partner if unsafe sex were refused (in reference to the vignette) than highly anxious women who were not rejected. This finding is interesting, as it demonstrates that women who are high in anxiety may exhibit a type of rejection transfer in which experiences of rejection in one domain lead to expectations for future rejection in other unrelated domains. Whereas women who are low in attachment

anxiety may view experiences of rejection as distinct and independent from one another, women who are high in attachment may believe that rejection in one area of life may mean that rejection is probable in other areas of life. Future research should address this tendency to exhibit rejection transference among highly anxious women to assess the conditions under which it may be exacerbated or reduced and to explore other factors that may increase our understanding of this interesting finding.

These promising areas of future research should, however, also address other potential limitations of the current program of research. One study design limitation of Studies One and Two is that they both address participants' intentions to engage in unprotected sex but do not address whether or not the participants later behave consistently with those intentions. Although condom use intentions have been shown to highly correlate with condom use behaviours (Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Sheeran, Abraham, & Orbell, 1999), it is clearly not the case that one's intentions will always predict one's behaviours in the realm of sexual decision-making. For this reason, the interaction between attachment anxiety and rejection on actual condom use behaviour should be assessed in future research through diary studies. To assess the influence of rejection on safer sex behaviour, participants could regularly report on their fears of and experiences with romantic rejection and general social rejection as well as their actual condom use behaviour during instances of sexual intercourse. This methodology might provide a clearer picture of how attachment anxiety and potential partner rejection interact to influence how individuals really behave during sexual encounters.

Another limitation of the research design of Studies One and Two is that they rely on self-report data from participants. Due to the sensitive nature of condom use and the social implications associated with engaging in unprotected sexual intercourse, it is possible that participants felt pressured to reply to the questionnaires in such a way that was deemed socially acceptable rather than replying with their true attitudes and thoughts toward condom use. Although significant differences in intentions ratings were found in Study One, which demonstrates that social desirability is not limiting the participants' responses completely, it should still be noted that responses may have been affected by the participants' aversion to being viewed in a negative light.

Despite the limitations associated with Study One and Study Two, the current program of research provides an important contribution to the literature on attachment anxiety and condom use. As previously noted, my thesis research is the first known attempt to manipulate rejection (both romantic and general) in order to assess the interacting influence of rejection and attachment anxiety on condom use intentions and attitudes. This experimental design provides further insight into the relationship between attachment anxiety and safer sex behaviour and investigates moderating factors that could explain the previously found positive association between attachment anxiety and unprotected sex.

There are also important practical applications that derive from the results of the current research program. Of course it is not realistic to assume that sexual health educators and promoters will have access to information on the attachment styles of their audiences in order to customize their teachings to those styles, however, the current program of research provides support for the idea that the fear of partner rejection should

be addressed as a potential influencing factor in sexual decision-making for some people. Therefore, educators and health promoters may benefit from providing training that allows all women to recognize that particular comments from partners are rejecting in nature and that these rejecting comments are inappropriate, keeping in mind that this training would likely have the greatest impact among highly anxious audience members. Equipping women with the tools needed to refuse unprotected sex in light of potential partner rejection may ultimately have a positive impact on their decision-making in sexual encounters, particularly among women who are high in attachment anxiety.

### *Summary*

Both romantic partner and general social rejection were experimentally manipulated to assess their interaction with attachment anxiety in predicting condom use intentions and attitudes. Among women who were high in attachment anxiety, intentions to engage in unprotected sex were not significantly affected by the romantic rejection condition to which they were assigned, although the pattern of results suggested stronger intentions among women who were rejected. Alternatively, among women who were low in attachment anxiety, those in the romantic rejection condition experienced significantly weaker intentions to have unprotected sex than those in the non-rejection condition. Importantly, this finding demonstrates that potential partner rejection impacts thoughts on sexual decision-making but does so primarily among women who are low in attachment anxiety, as the intentions ratings among women who were high in attachment anxiety were not significantly affected by potential partner rejection. Attitudes toward condoms, however, were unaffected by the interaction between potential partner rejection and attachment anxiety.

Whereas potential partner rejection and attachment anxiety interacted to influence condom use intentions in Study One, experienced general social rejection had no such effect. That is, women who were socially rejected by their peers in Study Two did not differ in their intentions to engage in unprotected sex from women who were not rejected by their peers and this general social rejection did not interact with attachment anxiety to influence intentions ratings or attitudes toward condoms. Therefore, the interaction results of Study One were not replicated using general social rejection in Study Two. However, the finding from Study One that potential partner rejection and attachment anxiety interact to influence intentions to have unprotected sex leads to important implications for the literature on condom use and to the application of this finding in sexual health promotion.

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### Appendix A: Rejection Vignette – Study One

Imagine that you are just ending off your fifth date with the guy whose photo you have chosen. You have just gone out for dinner and coffee. You had a great time with him tonight, just like all of the other dates. You two laughed and shared stories. You feel yourself becoming close to him and find yourself developing strong feelings for him. He makes you laugh, he's really smart, and he seems just like your type. You find him really attractive and he's a great kisser.

He walks you home from the coffee shop and walks you to the door. You both say that you had a great night and would love to go out again sometime soon. But you don't want the date to end. He kisses you goodnight and begins to turn to leave, but you decide to invite him inside.

Nobody else is home at your place. He takes off his coat and sits down on the couch while you put on some music. You sit down next to him and the mutual attraction between you two is unmistakable. He kisses you and the two of you start to make out on the couch. Things really begin to heat up as you two are caught up in the passion of the moment. He keeps telling you that you are beautiful and that you are making him so hot. His lips are so soft and his hands feel so good on your body.

He asks if you want to move to the bedroom so that you two can be more comfortable. You really want to, as your sexual attraction to him keeps growing and growing. You really like this guy and can see yourself with him, as his girlfriend.

You get off the couch and walk him upstairs to your bedroom. The two of you continue to make out on your bed and are both really enjoying being close to one another. You want to have sex with him but you don't have a condom and you know that there are none in the house so you ask your date if he has one. He responds, "No, I'm not the type of guy who just carries condoms around. Man, that was dumb of me. Is there a drug store nearby?" You tell him that the nearest drugstore is closed and the 24-hour one is a 20 minute walk away.

You continue kissing him as he is telling you how you how beautiful you are. You really like this guy and he seems like someone you can trust. You let him know that you are on the birth control pill and ask him what he thinks you two should do. He says,

"Well, I really like you and I can tell you feel the same way about me. So then it should be okay – I mean, you're on the pill and everything. We both want to do this. I think you're amazing. If we sleep together I'll feel so close to you. I really want to feel close to you. I need to know our relationship is moving forward and for me sex is the most important part of that. So...are you up for this?"

### **Appendix B: Non-Rejection Vignette – Study One**

Imagine that you are just ending off your fifth date with the guy whose photo you have chosen. You have just gone out for dinner and coffee. You had a great time with him tonight, just like all of the other dates. You two laughed and shared stories. You feel yourself becoming close to him and find yourself developing strong feelings for him. He makes you laugh, he's really smart, and he seems just like your type. You find him really attractive and he's a great kisser.

He walks you home from the coffee shop and walks you to the door. You both say that you had a great night and would love to go out again sometime soon. But you don't want the date to end. He kisses you goodnight and begins to turn to leave, but you decide to invite him inside.

Nobody else is home at your place. He takes off his coat and sits down on the couch while you put on some music. You sit down next to him and the mutual attraction between you two is unmistakable. He kisses you and the two of you start to make out on the couch. Things really begin to heat up as you two are caught up in the passion of the moment. He keeps telling you that you are beautiful and that you are making him so hot. His lips are so soft and his hands feel so good on your body.

He asks if you want to move to the bedroom so that you two can be more comfortable. You really want to, as your sexual attraction to him keeps growing and growing. You really like this guy and can see yourself with him, as his girlfriend.

You get off the couch and walk him upstairs to your bedroom. The two of you continue to make out on your bed and are both really enjoying being close to one another. You want to have sex with him but you don't have a condom and you know that there are none in the house so you ask your date if he has one. He responds, "No, I'm not the type of guy who just carries condoms around. Man, that was dumb of me. Is there a drug store nearby?" You tell him that the nearest drugstore is closed and the 24-hour one is a 20 minute walk away.

You continue kissing him as he is telling you how you how beautiful you are. You really like this guy and he seems like someone you can trust. You let him know that you are on the birth control pill and ask him what he thinks you two should do. He says,

"Well, I really like you and I can tell you feel the same way about me. So then it should be okay – I mean, you're on the pill and everything. We both want to do this. I think you're amazing. It's up to you though...I don't want to pressure you. We can wait if you really want to but I want to sleep with you so bad. But really, it's up to you. So...are you up for this?"

### Appendix C: Sexual Intentions and Attitudes Questionnaire Package

Please answer the following question. Please try to be as open and honest as possible, and answer spontaneously: what would you do if you were in this situation?

1) If I were in this situation, I would engage in sexual intercourse.

1	2	3	4	5	6	7	8	9
<i>Very Unlikely</i>								<i>Very Likely</i>

Please tell us why you circled the number that you did in Question 1. That is, what thoughts or factors went through your mind when you decided whether or not to have sexual intercourse if you were in the situation you just read. These factors could be thoughts you had, feelings that you experienced, or anything else that you considered. Please list as many factors as you can. You may list them in point form.

1.

2.

3.

4.

5.

6.

7.

8.

Please rate your *attitude toward condom use* by putting an X in the appropriate position along the continuum below:

### CONDOMS

Pleasant	:_:_:_:_:_:_:_:_	Unpleasant
	:	
Convenient	:_:_:_:_:_:_:_:_	Inconvenient
	:	
Stressful	:_:_:_:_:_:_:_:_	Relaxing
	:	
Not Embarrassing	:_:_:_:_:_:_:_:_	Embarrassing
	:	
Not Worthwhile	:_:_:_:_:_:_:_:_	Worthwhile
	:	
Uncomfortable	:_:_:_:_:_:_:_:_	Comfortable
	:	
Nice	:_:_:_:_:_:_:_:_	Awful
	:	
Not Pleasurable	:_:_:_:_:_:_:_:_	Pleasurable
	:	
Negative	:_:_:_:_:_:_:_:_	Positive
	:	
Straightforward	:_:_:_:_:_:_:_:_	Complicated
	:	
Easy	:_:_:_:_:_:_:_:_	Difficult
	:	

**Imagining yourself as the female character in the description you just read, you and your partner are faced with a dilemma. You are both very interested in having intercourse, but neither of you has a condom. Please answer the following questions, and indicate what you would do if you were faced with this dilemma with your partner or with someone you were highly attracted to. Please try to be as open and honest as possible, and answer spontaneously: what would you do in this situation, feeling the way that you feel right now?**

1. I would be worried that my partner wouldn't like me as much if I didn't agree to have sexual intercourse.

1            2            3            4            5            6            7            8            9

Strongly

Strongly

Disagree

Agree

2. I would be worried that my partner would think that I didn't like him if I didn't agree to have sexual intercourse.

1            2            3            4            5            6            7            8            9

Strongly

Strongly

Disagree

Agree

3. I would be worried that my partner would reject me if I didn't agree to have sexual intercourse.

1            2            3            4            5            6            7            8            9

Strongly

Strongly

Disagree

Agree

4. I would be worried that my partner would be upset that I had led him on if I didn't agree to have sexual intercourse.

1            2            3            4            5            6            7            8            9

Strongly

Strongly

Disagree

Agree

5. I would be worried that my partner would see me as less of a woman if I didn't agree to have sexual intercourse.

1            2            3            4            5            6            7            8            9

Strongly

Strongly

Disagree

Agree







25. a) Please estimate the percentage of Queen's undergraduate students who would use a condom in this situation: \_\_\_\_\_%

b) How confident are you in your previous response (25a)?

1	2	3	4	5	6	7	8	9
Strongly								Strongly
Disagree								Agree

**Appendix D: Correlations between Dependent Measures – Study One**

	Intentions	Attitudes	Rejection	Discussion Discomfort	Partner's Felt Trust	Justifications	Other Options	Condom Importance	Difficult Decision	AIDS/ STIs	Positive Mood	Negative Mood
Intentions	1.00											
Attitudes	-.17	1.00										
Rejection	.110	-.19	1.00									
Discussion Discomfort	.028	-.02	.45**	1.00								
Partner's Felt Trust	.00	-.17	.46**	.17	1.00							
Justifications	.58**	-.31**	.31**	.20*	.28**	1.00						
Other Options	-.58**	.17	.07	.06	.09	-.50**	1.00					
Condom Importance	-.43**	.21*	.05	-.02	.02	-.35**	.41**	1.00				
Difficult Decision	.53**	-.01	.34**	.18	.22*	.48**	-.30**	-.08	1.00			
AIDS/ STIs	.14	-.07	.10	.04	.24*	.33**	-.11	-.02	.18	1.00		
Positive Mood	-.04	.16	-.01	-.18	.02	.02	.19	.14	.10	.05	1.00	
Negative Mood	.06	-.20*	.29**	.25**	.07	.14	-.09	-.08	.06	-.06	-.28*	1.00

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

**Appendix E: Descriptive Statistics of Dependent Measures – Study One**

Dependent Measure	<i>M</i>	<i>SD</i>
Intentions	4.39	2.20
Attitudes	5.39	0.86
Rejection	3.73	1.70
Discussion Discomfort	3.04	2.15
Partner's Felt Trust	3.35	2.26
Justifications	2.22	1.09
Other Options	6.72	2.14
Condom importance	7.38	1.62
Difficult Decision	4.47	2.57
AIDS/STIs	5.22	2.52
Positive Mood	3.39	0.68
Negative Mood	2.23	0.65

## Appendix F: Sexual Encounter Vignette – Study Two

Imagine that you are just ending off your fifth date with the guy you really like. You have just gone out for dinner and coffee. You had a great time with him tonight, just like all of the other dates. You two laughed and shared stories. You feel yourself becoming close to him. He makes you laugh, he's really smart, and he seems just like your type. You find him really attractive and he's a great kisser.

He walks you home from the coffee shop and walks you to the door. You both say that you had a great night and would love to go out again sometime soon. But you don't want the date to end. He kisses you goodnight and begins to turn toward his car, but you decide to invite him inside.

Nobody else is home at your place. He takes off his coat and sits down on the couch while you put on some music. You sit down next to him and the mutual attraction between you two is unmistakable. He kisses you and the two of you start to make out on the couch. Things really begin to heat up as you two are caught up in the passion of the moment. He keeps telling you that you are beautiful and that you are making him so hot.

He asks if you want to move to the bedroom so that you two can be more comfortable. You really want to, as your sexual attraction to him keeps growing and growing. You want to have sex with him but you don't have a condom and you know that there are none in the house so you ask your date if he has one. He responds, "No, I'm not the type of guy who just carries condoms around. Man, that was dumb of me. Is there a drug store nearby?" You tell him that the nearest drugstore is closed and the 24-hour one is a 20 minute walk away. You let him know that you're on the birth control pill though.

You continue kissing him as he is telling you how you how beautiful you are. He seems like the kind of guy you can trust. You are really into this him and both of you are really enjoying being close to one another. His lips are so soft and his hands feel so good on your body.

You ask him "so, what do you think we should do" and he replies "I don't know, what do you think?"

**Appendix G: Correlations between Dependent Measures – Study Two**

	Intentions	Attitudes	Rejection	Discussion Discomfort	Partner's Felt Trust	Justifications	Other Options	Condom Importance	Difficult Decision	AIDS/ STIs	Positive Mood	Negative Mood
Intentions	1.00											
Attitudes	-.28*	1.00										
Rejection	.17	-.14	1.00									
Discussion Discomfort	.05	-.24*	.24*	1.00								
Partner's Felt Trust	-.08	-.11	.49**	.12	1.00							
Justifications	.54**	-.24*	.39**	.34**	.21	1.00						
Other Options	-.56**	.18	-.06	-.02	.26*	-.32**	1.00					
Condom Importance	-.39**	.31**	.14	.11	.34**	-.30**	.52**	1.00				
Difficult Decision	.51**	-.08	.34**	.04	.03	.30**	-.29*	-.09	1.00			
AIDS/ STIs	.04	-.16	.08	.07	-.01	.14	.003	-.01	.06	1.00		
Positive Mood	-.01	.23*	.01	-.20	-.04	-.13	-.05	-.03	-.03	.001	1.00	
Negative Mood	.000	-.10	.15	.13	-.001	.07	-.12	.01	-.02	-.18	.09	1.00

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

**Appendix H: Descriptive Statistics of Dependent Measures – Study Two**

Dependent Measure	<i>M</i>	<i>SD</i>
Intentions	4.59	2.43
Attitudes	5.25	0.83
Rejection	3.47	1.72
Discussion Discomfort	3.25	2.07
Partner's Felt Trust	4.18	2.42
Justifications	2.60	1.16
Other Options	6.64	2.19
Condom importance	7.47	1.68
Difficult Decision	5.19	2.61
AIDS/STIs	5.63	2.37
Positive Mood	3.36	0.70
Negative Mood	2.36	0.76