UNDERSTANDING DESTRUCTIVE CONFLICT: THE ROLE OF PROJECTION IN

ATTRIBUTION BIAS AND SELECTION OF CONFLICT STRATEGIES

IN A STUDY OF COLLEGE ROOMMATES

by

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ABSTRACT

This study investigated sources of negative interpersonal conflicts. Previous research has established attribution bias as a key variable that differentiates positive and negative conflicts. People who make biased attributions are more likely to experience negative emotions and choose less skillful conflict strategies. However, there is an inadequate understanding of where attribution bias comes from, and who is more likely to engage in attribution bias. This study proposes projection, a psychological defense mechanism, as a viable explanation and predictor of attribution bias. Projection is a cognitive distortion that results in negative evaluations of others and high levels of negative emotional arousal, and may lead people to act destructively in conflicts. Five hundred and nine undergraduate students (n = 509) responded to a survey questionnaire. Results found support for the study's hypothesis. Projection was positively related to attribution bias, negative emotions, and unskillful conflict strategies. In addition, of the four hypothesized variables used to predict attribution bias, projection emerged as the strongest predictor. Therefore, it appears projection adds valuable insight to the conflict process.

Chapter 1

INTRODUCTION

Interpersonal conflict is inevitable in all close relationships. How people manage conflict affects the overall quality and stability of their relationships. When managed successfully, conflict can lead to greater levels of relational trust and intimacy (Canary, 2003). For example, studies have reported that moderate levels of conflict can be better for the general long-term health of relationships than low levels of conflict (Gottman & Krokoff, 1989). Poorly managed conflicts, however, can have destructive effects on relational stability (Gottman, 1994). Given this relationship between conflict and relational quality, it is important for people to understand the characteristics that differentiate productive and unproductive conflicts.

Current research has made significant progress in identifying the dynamics of interpersonal conflict. Researchers have observed conflict strategies drive conflict behaviors and outcomes (e.g. Sillars, 1981). They have evaluated which conflict strategies are effective and which are ineffective (e.g. Gurman, 2002). And they have identified how attributions of the situation and of the other person significantly affect the choice of conflict strategies (e.g. Bradbury & Fincham, 1992). In an important research study of college roommates, Sillars (1981) demonstrated how certain conflict attributions, such as increased blame of the other person, were maladaptive because they were linked

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with lower relationship satisfaction. Participants were more likely to externalize

responsibility when conflict issues were perceived as important and when conflicts

became increasingly negative. Sillars concluded these maladaptive attributions

functioned as a type of ego-defense. In other words, the attributions were biased to

protect participants' sense of self.

Sillars' study is both theoretically significant and heuristically provocative; it

serves in large part as the inspiration of this study. One question that arises from the

study is why some roommates have greater attribution bias during conflicts than others.

Why are certain people more defensive and how do they become that way? What causes

maladaptive attributions? Without answers to these questions, we are missing a key

puzzle piece in understanding why conflicts can become destructive.

Thirty year later, communication scholars still do not have an adequate answer for

predicting who will experience greater attribution bias or explaining why some

individuals experience heightened ego-defensiveness during conflicts. This study

attempts to fill the void by going outside of communication research and taking a closer

look at the literature on psychological defenses. One promising explanation is the

psychiatric theory of emotional defense mechanisms. Defense mechanisms are mental

safeguards that protect the self and its psychological equilibrium against threats that may

generate heightened anxiety (Cramer, 1998). While there are multiple types of defense

mechanisms, the one of most interest to communication researchers is projection; it is the

only defense mechanism that is exclusively interpersonal in nature and is characterized as

a social defense (Vaillant, 1998). Projection operates by unconsciously disavowing

negative thoughts, feelings, or beliefs about the self that cause high anxiety and attributing them to another person (Plutchik, 1995). The projector is unaware of the shift that has taken place and thus experiences an external threat, unaware of its internal origin. Projection can therefore be seen as the externalization of a negative trait onto another person in order to defend one's self-esteem.

This study hypothesizes that projection is a useful and viable explanation for why some people are more likely to engage in attribution biases and unskillful conflict behaviors. Specifically, projection is an antecedent to unskillful conflict because its inherent nature results in ego-defensiveness and biased attributions, the phenomena observed in Sillars' (1981) attribution study. Projection is also likely to occur in conflict because, as Sillars noted, conflicts often generate both threats to self-esteem and significant anxiety within the participants. Therefore, this study hypothesizes the more one uses projection in a conflict, the more one is likely to experience attribution bias and behave unskillfully. If this hypothesis is supported, then it opens the possibility of predicting negative conflict outcomes before they take place.

This study seeks to add to our understanding of why negative conflicts occur. It begins by summarizing the research of what distinguishes productive and unproductive conflict. Next, it examines how emotional arousal and attribution errors lead to conflict mistakes. It then describes the common attribution biases people make, and how these biases account for a useful but insufficient number of attribution errors observed in conflict. Finally, it provides a detailed discussion of projection and how it potentially relates to conflict.

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In following up on Sillars' 1981 work, this study will look at conflict by similarly studying college roommates. College roommates are a good sample for studying conflict because they share characteristics that are typical of other oft-studied conflict relationships, such as marriages. Specifically, these dyads all have to cope with co-habitation, sharing of resources, and interdependency. Therefore, this study adopts the perspective that conflicts between intimates (roommates, spouses, partners, etc.) all share certain similar characteristics (Keck & Samp, 2007; Bevan, 2010, Sanford & Rowatt, 2004). Furthermore, this presumes that studying college roommates offers the potential for illuminating the dynamics of other intimate relationships as well.

<u>Current Conflict Research</u>

Conflict behaviors are understood as largely resulting from the conflict strategies that one chooses to employ during a conflict. In the communication literature, conflict strategies have frequently been divided into three categories: cooperative strategies aimed at resolving the conflict (e.g. emphasizing information sharing, accepting responsibility, developing compromises), avoidance (e.g. topic shifting, semantic focus, dismissing the issue), and hostility (e.g. personal criticism, issuing threats, making demands) (Sillars, 1981; Sillars & Wilmot, 1994; Canary, Cunningham, & Cody, 1988). These divisions come in large part from the literature on relational therapy. Cooperative strategies are viewed as positive, productive strategies because they emphasize collaboration between participants and seek to promote mutually beneficial solutions (Gurman, 2002). Avoidance and hostility, however, are viewed as negative, destructive strategies because

they emphasize personal goals at the expense of relational goals (Wile, 2002). While all relationships contain some elements of avoidance and hostility, and while both avoidant and hostile strategies can be functional at times, excessive use of either is destructive because it reinforces the belief that the other partner in a conflict does not share mutually-enhancing relational goals. Such a view creates distance in the relationship and undermines relational intimacy (Wile, 2002). Partners then become vulnerable to certain cycles of relationship conflict (e.g. the demand-withdrawal pattern) that are particularly destructive to relationships (Sayers, 2004; Eldridge & Christensen, 2002).

The qualitative, therapeutic understanding of conflict strategies is supported by quantitative research. In the study of college roommates, Sillars (1981) found cooperative strategies, compared to avoidant and hostile strategies, were associated with significantly greater incidences of resolved conflicts, shorter conflict durations, and greater satisfaction with the roommate's handling of the conflict. Studies in marriages have found similar results: marital satisfaction is positively associated with cooperative strategies and negatively related to avoidant and hostile strategies (e.g. Segrin, Hanzal, & Domschke, 2009); a finding supported across a variety of studies with a variety of different methodologies (for review, see Kurdek, 1995). Therefore, it appears clear that conflict participants should emphasize cooperative strategies in order to encourage mutually beneficial outcomes, minimize negativity, and promote overall relational wellbeing.

Conflict strategies, in turn, are influenced by the attributions people make about the situation and the other person in the conflict. The difference between different

attributions and their effects on conflicts cannot be overstated (Canary, 2003). When

people make benign attributions, they favor more cooperative conflict strategies with

their partners that emphasize collaboration and information sharing (Sillars, 1981). They

tend to express less defensiveness (Gottman, 1994) and demonstrate greater control over

the impulse to act destructively (Berkowitz, 1993).   Conversely, when people make

maladaptive attributions, attributions that initiate or maintain relational distress (Fincham

& Bradbury, 1993), they favor either avoidant or hostile conflict strategies. They tend to

view the other person in the conflict more negatively and behave unskillfully as a result

(Bradbury, Fincham, & Nelson, 1996).

Researchers have generally divided attributions into two sub-categories: causal

and responsibility attributions. Causal attributions center around the genesis of the

conflict and consist of locus (is the conflict a consequence of the other person or the

external circumstance?), globality (is the conflict relevant to the current topic or does it

spread across many different topics?), and stability (is the conflict part of a general

pattern over time or is it a result of the current situation?) (Bradbury & Fincham, 1990).

Responsibility attributions center on the partner and consist of blameworthiness (to what

degree should the partner be faulted for the problem?), intentionality (did the partner have

negative intentions?), and selfishness (to what degree is the partner is motivated by

personal concerns?). These attributions are considered biased if a person views the

conflict as occurring because of the partner, perceives greater stability and globality of

the conflict, assigns blame to the partner for the conflict, views the partner's actions as

being negatively intended, and believes the partner is motivated by selfish concerns

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(Bradbury & Fincham, 1992; Fincham & Bradbury, 1993). In their review of the marital literature of attributions and relationships, Bradbury and Fincham (1990) concluded that there was a clear link between attributions and relationship satisfaction. Attribution bias predicted lower relationship satisfaction among married spouses (Bradbury & Fincham, 1990), romantic couples (Schaefer-Porter & Hendrick, 2000), close friends (Keck & Samp, 2007) and college roommates (Sillars, 1981).

Given this significant body of understanding, researchers have proposed several recommendations for improving conflict interactions. Gottman (1993a), for example, recommends therapeutic intervention to establish norms for people in interaction, particularly emphasizing the need for nondefensive speaking and nondefensive listening. Other sources provide basic outlines that can be universally followed. For example, the Handbook of Communication and Social Interaction Skills (Canary 2003) recommends the following steps for productive conflict:

1) People should monitor their own anger responses in response to stressors and engage in soothing activity

2) People should uncompromisingly adhere to the belief that conflict involves using cooperative strategies

3) People should realize the role of attributions in conflict and how conflict occurrence is normal, not abnormal. To obtain greater attribution control, they should look for informational value in a partner's response rather than view it as an attack.

4) People should learn to control the destructive impulses that may arise during conflict

5) Most critically, people should avoid reciprocating competitive behavior (escalating the conflict) because it is the most destructive type of communication event.

However, while these recommendations are useful, they are also limited; they assume people make mistakes in conflict because they lack understanding of skillful conflict. While it is clearly useful to know which behaviors, strategies, and attributions are considered healthy, it is not sufficient for having productive conflict. Sillars and Weisberg (1987) point out that even uninformed people should know that criticism, blaming, or other types of hostile behaviors poison relationships. Nonetheless, people often fail to take charge of their patterns and make changes, even after their behavior is brought into their awareness. Why can't people follow these straightforward recommendations? The next section examines several theories that propose explanations for why people behave unskillfully in conflicts.

Theories of Conflict Mistakes: What's Going On?

Why do people make mistakes in conflict? One proposed explanation is the communication skills deficit hypothesis, which claims that less skillful communicators are more likely to exhibit aggressive and abusive behavior (Canary, Spitzberg, & Semic, 1998). However, a serious limitation with the skills deficit hypothesis is a series of research studies indicating people in distressed marriages can demonstrate

communication skills in other relationships outside their marriage (Gurman, 2002).

Distressed couples have also shown the ability to use productive conflict strategies and

resolve conflicts if instructed to "act good," regardless of their level of dysfunction

outside the instruction-guided conflict (Vincent, Friedman, Nugent, & Messerly, 1979).

Holtzworth-Munroe & Jacobson (1991) therefore argue that people who engage in

dysfunctional conflict suffer from a performance deficit, rather than a skills deficit. In

other words, people often already possess the ability to manage conflict skillfully, yet still

perform inadequately in actual conflicts.

Another hypothesized explanation comes from theories of reinforcement, such as

social learning theory, which argue that people learn negative behaviors as a result of past

destructive conflicts (e.g. Patterson, 1976). Reinforcement principles may explain some

aspects of spontaneous conflict behavior, but they still leave a gap for why individuals

fail to recognize and change their negative communication patterns (Sillars & Weisberg,

1987). Noting these limitations, Sillars and Weisberg (1987) concluded, "Conflict simply

cannot be fully appreciated from a highly rational view of human behavior. Sometimes

people lose control over conflict; not because they are naïve, but because the process

itself has disorderly and irrational elements" (p.148).

Following Sillars and Weisberg's (1987) guidelines, research points to two main

sources that may account for irrational conflict behavior: emotions and attribution errors.

Conflicts are often intense emotional experiences; involving people that are usually

emotionally intimate and therefore both emotionally interdependent and vulnerable

(Sillars & Scott, 1983). These conflicts therefore tend to generate high levels of

emotional arousal. Gottman (1993a) uses the term "flooding" to describe someone who is overwhelmed by intense emotions. Gottman sees it as a critical distinguishing variable between productive and unproductive conflicts. When someone is flooded, they experience high emotional arousal and significantly reduced cognitive capacity. A person in this state is much more likely to engage in destructive, aggressive behaviors as a result (Rule & Nesdale, 1976). Therefore, emotional arousal appears to be a key factor for explaining behavioral mistakes in conflict.

The second source is attribution errors people can make during conflicts. One of the inherent challenges of conflict is how difficult it can be to make sense of what takes place. Conflicts are often very complex in nature and resistant to understanding by both the people involved and theoretical models that explain them (Sillars & Weisberg, 1987). Faced with this complexity, people rely on only the most salient of cues to evaluate the behavior of others (Sillars, Pike, Jones, & Murphy, 1984). Sillars, Weisberg, Burggraf, and Zietlow (1990) argue that, in conflicts, self-cognitions may be the most salient source of information people have because of their immediacy and emotionality. If self-cognitions are the most salient data, then it means people may make attributions based upon internal information and may have limited processing of external and situational information. Sillars et al. (1984) gave support for this hypothesis when they found that verbal communication between married spouses had no impact on each other's understanding of the conflict. In other words, the spouses' behavior did not affect each other's perspective, a surprising discovery. It did not matter what was happening on the outside during the conflict, all that mattered was the internal attributions people made.

Given this line of research, it appears a source of conflict errors lies in self-cognitions and how they impact the attributions and emotions of participants in conflict. Relying predominantly on self-cognitions, however, doesn't make one more or less likely to make mistakes; it is the content of the self-cognitions that differentiates productive and unproductive conflicts. Recalling Sillars' (1981) original study that identified biased attributions as a key distinguishing feature; it appears that in unproductive conflicts, the content of self-cognitions leads people to engage in attribution biases. For productive conflicts, it appears that self-cognitions do not lead people to engage in attribution biases. What accounts for this difference? The next section examines attribution biases in the literature to explain why some people make more biased attributions than others.

Types of Attribution Biases

This section will describe four main attribution biases in the psychological literature and their relation to our understanding of conflict: fundamental attribution error, self-serving attribution bias, defense attribution bias, and hostile attribution bias. The fundamental attribution error is the tendency to attribute another person's behavior to their own internal traits rather than situational factors (Fiske & Taylor, 1991). For example, when I interact with someone who is quiet, I am more likely to claim the person is shy rather than to say they're exhausted from a long day. Fundamental attribution error occurs because behaviors are more salient than the social context in which they take place. This discrepancy, and the chance of making an error, increases as people become more actively engaged in a situation (Miller & Norman, 1975). Thus, the fundamental

attribution error may apply to conflict because it claims people have a tendency to make dispositional attributions, especially in conflicts given their highly involved and engaged nature.

The self-serving attribution bias is the tendency to attribute success to one's own internal dispositions while attribute failure to external causes (Larson, 1977). For example, I won the race because I trained hard, but I lost the race because the course wasn't designed well. The self-serving bias is a robust phenomenon observed across a wide range of people, regardless of factors such as age, sex, or ethnicity (Mezulis, Abramson, Hyde, & Hankin, 2004). It happens as a result of cognitive and motivational factors; however it can be considered a type of ego-enhancing defense (Shepperd, Malone, & Sweeny, 2008). The self-serving attribution bias may apply to conflict because it may result in a denial of personal responsibility if the conflict goes poorly.

The defense attribution bias is the tendency to increasingly attribute responsibility for actions as they produce more severe consequences (Shaver, 1970). For example, I attribute you to be a below-average driver for hitting a road sign in a neighborhood, but I attribute you to be an incompetent, reckless, and dangerous driver for hitting another car on the highway. As the severity of the consequences increase, it becomes harder to tolerate the idea of an action being random or accidental because of the unpredictability that it entails (Fiske & Taylor, 1991). People compensate by attributing causal attributions, often to the other person in the situation. Defense attribution bias may apply to conflict because it may result in increased blame towards the other person as the conflict gets more severe.

The hostile attribution bias is the tendency for aggressive people to attribute hostile intent to others even when situations are ambiguous or benign (Milich & Dodge, 1984). The bias is an unconscious reaction that distorts salient cues, skewing them in a hostile direction. People engaging in hostile attribution bias experience intensely negative emotions and are much more likely to retaliate against perceived threats (Epps & Kendall, 1995). Hostile attribution bias may apply to conflict because it follows the pattern of conflict mistakes: attribution distortions, emotional arousal, and destructive behaviors.

However, despite the usefulness of these four biases, they are each limited in how much they can inform us about unskillful conflict. The fundamental attribution error is a cognitive bias; it does not account for the emotional nature of conflict nor does it make predictions about who will make more mistakes. The self-serving attribution bias occurs in most conflicts regardless of levels of relationship distress (Schütz, 1999) and is not actually considered dysfunctional because it is linked with positive mental health outcomes (Mezulis et al., 2004). This bias is also more consistently observed as a self-esteem-enhancing phenomenon rather than a self-esteem-protecting one (Duval & Silvia, 2002). The defense attribution bias only applies to conflicts after they have become destructive, it does not account for why conflicts became destructive in the first place. And the hostile attribution bias applies only to the emotion of hostility and only to those who are considered highly aggressive, often those in clinical samples (Epps & Kendall, 1995). Hostile attribution bias does not account for what Canary (2000) calls, "routine,

normative episodes of relationship conflict," only with "aggressive and abusive encounters" (p. 475).

The main conclusion from the research on attribution biases is that although we have pieces of information that help inform us about conflict, there is still a large piece missing. We do not have an attribution bias that effectively predicts emotional arousal and maladaptive attributions *before* the conflict becomes negative and accounts for *everyday* conflicts. The attribution biases listed previously do not sufficiently account for the content of self-cognitions that differentiate productive and destructive conflicts; there must be another attribution bias at work. The next section looks into a new attribution bias by proposing that projection can make a significant difference in how we understand conflict attribution biases.

<u>Projection</u>

Projection comes from the psychiatric literature on defense mechanisms, which have been the subject of over 2000 empirical studies since 1990 (Cramer, 2006). Projection is defined as "attributing one's own unacceptable thoughts, feelings, or intentions to others, so as to avoid the anxiety associated with harboring them" (Cramer, 2006, p. 23). It is a type of attribution bias that results in the perception of the world as a threatening place. High projectors believe the world is more negative and ominous than is true in objective reality (Cramer 2008). Consequently, they are likely to show hyperalertness and vigilance in order to protect themselves against perceived threats. They may also may react aggressively and attack the threat in order to destroy the threat's

power (Plutchik, 1995). The attribution is therefore clearly maladaptive because it results in destructive behaviors.

In addition to being a cognitive mechanism, projection is also an intensely emotional experience (Conte & Plutchik, 1993). It occurs when people feel threatened and experience high anxiety. Projection is characterized by a mixture of highly negative emotions, including but not limited to hostility, disgust, and self-hatred (Plutchik, 1995). Given its capacity to act as an attribution bias and generate high emotional arousal, it follows that projection may be a possible antecedent to destructive conflict.

Projection originates in childhood as part of one's early cognitive development. It is a normal, often necessary method for children to deal with overwhelming experiences (Cramer, 2007). As children grow older, they are taught which behaviors are culturally acceptable and which are not. Frequently, these lessons come as a consequence of a child making a mistake or misstep, resulting in a range of consequences from mild embarrassment to severe punishment and pain. A child learns quickly to defend herself by disavowing aspects of the psyche considered socially unacceptable, hoping to avoid further wounding. By the end of childhood, children become cognitively complex enough to deal with these rejected pieces by projecting them onto others. Projection then becomes the dominant method of coping during this period of development up through late adolescence (Cramer, 2006).

While projection has significant value for one's growth in their adolescent phase of life, it is a relatively primitive defense that has limited value for adults (Plutchik, 1995). Although projections help children manage anxiety and conflict, they are largely

maladaptive because they are unskillful and inflexible ways to manage stress. Projection is associated with lesser adjustment in adulthood compared to other, more sophisticated defense mechanisms (for review, see Cramer, 2008). In addition, use of projection in adulthood predicts increased levels of neuroticism (Cramer, 2003). Despite its limitations, projection remains an active component of many adults' defenses. Studies have found projection was the most common defense mechanism used by 18 year olds (Cramer, 2007), 23 year olds (Cramer & Block, 1998), and 34 year olds (Cramer, 2004). Therefore, even though it reaches its maximum level of use in adolescence, projection often plays an ongoing role throughout adulthood.

There are several identifying aspects to projection that characterize its presence. The first is a transferring of roles between the projector and the target of the projection (Cramer, 2006). The two people essentially trade places so that the projector perceives being on the receiving end of the projection from the target, even though the opposite is true. Thus, the original thought "I am a much better person than you" becomes "you are such an arrogant person; you think you're better than everyone." A projector should therefore experience some sense of being on the receiving end of the behavior of the target. Anxiety is also a central component of projection because, at its core, projection requires self-condemnation of its own nature and exiling the unwanted pieces (Plutchik, 1995). The result is an anxious, divided self that is less than whole. When a person then projects an unwanted piece onto the target, the feelings of anxiety come to the surface. A projector should therefore experience heightened anxiety. Finally, a projector experiences an emotional paradox; they both disapprove of and envy the target

simultaneously. In order for projection to take place, the self has to make value judgments of what is good and what is bad (Cramer, 2006). The bad pieces are then exiled via projection, while the good pieces are consciously embodied. This separation creates a duality of good and bad between the projector and the target. Consequently, the projector should perceive the target as behaving in a way that is considered "bad" and against the values of the projector. However, the projector will also envy the target because the target "gets away" with the behavior without being punished (Zweig & Wolf, 1997). This envy represents a hidden desire on the part of the projector to also get away with the same behavior. Therefore, a projector should experience both disapproval and envy when projecting onto another person.

Compared to projection and other defense mechanisms, coping strategies are considered more mature forms of protection of the self's psychological equilibrium because they consciously manage stress and do not distort reality (Kramer, 2010). They are intentional efforts to either change an aspect of the world in order to be more acceptable to the self, or an aspect of the self in order to be in line with the world (Cramer, 1998). Lacking the reality distortion of projection, coping strategies allow people to perceive with clarity the needs of particular, distinct, and subtle circumstances and respond more skillfully. More engaged coping methods are linked with conscientiousness and openness, while projection and other defense mechanisms are linked with neuroticism (Carver & Connor-Smith, 2010). Coping strategies are therefore considered superior responses, especially in a conflict venue, because they allow for considerate, flexible, skillful, and conscious behavioral choices.

Summary

From previous research, we know that behaviors are strategy-based, and these strategies are influenced by emotional arousal, which is in turn influenced by attributions. Therefore, it is the content of one's attributions that ultimately determines one's behavior. Despite this understanding, however, we do not have a sufficient explanation for the presence of biased attributions. As a result, this study poses two fundamental questions: "what explains the presence of biased attributions?" and "which people are more likely to have biased attributions and therefore engage in destructive behaviors?" This study contends that a person who is prone to projection is likely to project during a conflict, given its highly emotional and anxiety-producing nature. When this projection takes place, the person is more likely to perceive the other person as a threat and respond negatively. High projectors are therefore more likely to experience attribution bias. This study also predicts that someone who projects is more likely to engage in destructive conflicts regardless of potentially mitigating factors, such as relationship satisfaction and issue severity. Combining these ideas, the following theoretical model and hypotheses are presented:

Theoretical Model and Hypotheses
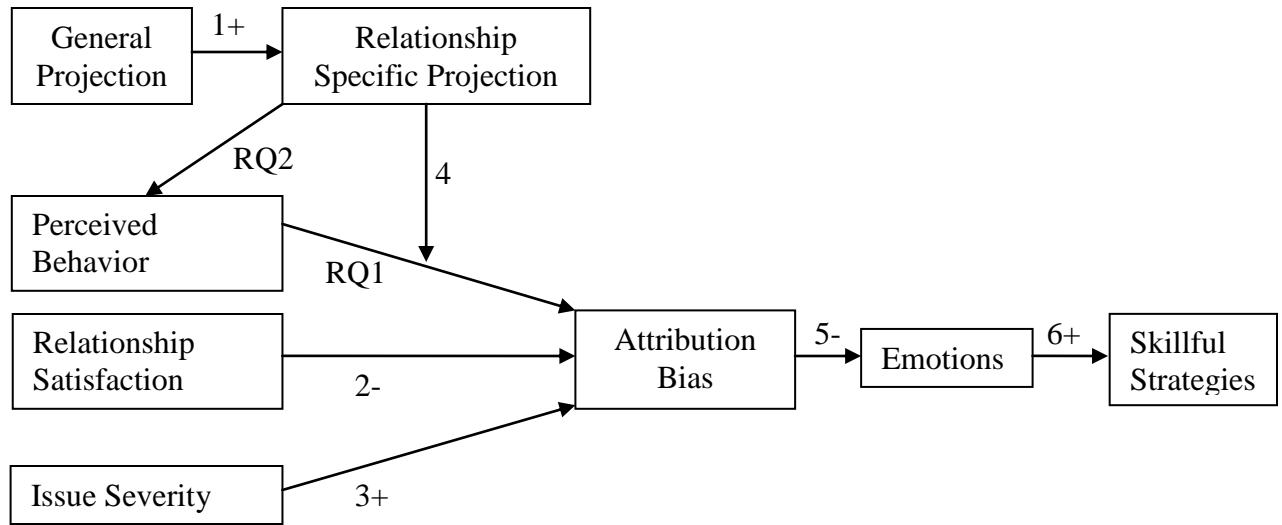
Figure 1.1 *Proposed Theoretical Model*

In order to understand projection's role in conflicts fully, it's important to

understand the distinction between general projection and relationship-specific

projection. General projection refers to the tendency to project onto another person

regardless of situational context; relationship-specific projection refers to whether or not

projection is present in a particular context (in this case, is the subject projecting onto the

roommate specifically?). This distinction is important for understanding the theoretical

model presented above. If projection is a viable explanation for the source of attribution

biases in a conflict, then it must be present in the relationship. Projection is irrelevant if a

subject is highly likely to project but is not specifically projecting onto their roommate.

Relationship-specific projection is therefore the relevant variable for conflicts. However,

general projection is clearly a useful measure since it should predict whether or not a

subject will project onto the roommate. Hypothesis 1 thus makes the connection between general projection and relationship-specific projection.

> H1: General projection is positively related with relationship-specific
>
> projection

Previous research indicates there are multiple self-cognitions that predict attribution bias, including relationship satisfaction and conflict issue severity. Are perceptions of the other person's behavior a type of self-cognition that affects attribution bias as well? Studies have shown that behavior itself can have minimal impact on attributions (Sillars et al., 1984; Jacobson, McDonald, Follette, & Berley, 1985). For example, Jacobson et al. (1985) split married couples into two groups, one spouse aware of an experimental manipulation and the other unaware. The researchers then divided the aware spouses into two groups; one instructed to act positively towards their partner and the other instructed to act negatively. The researchers observed the partner to see if there was any difference in how the partner interpreted the behavior and intent of the spouse. Results showed both behavior and intent were dismissed: nondistressed partners were more likely to make positive attributions to positive behaviors, while distressed partners were more likely to dismiss positive behaviors. The results indicated it was the content of the partner's self-cognitions, rather than the spouse's behavior, that predicted the subsequent attributions.

If behavior can have minimal impact on attributions, do perceptions of behavior matter? It may be the case that perceived behavior is a form of self-cognition that affects attribution bias. It may also be the case that perceived behavior relies on external

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phenomena and is therefore less salient in a conflict. This study seeks to shed further light on the topic by asking participants about perceptions of the other person's behavior in the conflict and investigating the relationship between the perceived behaviors and the participants' attribution bias.

> H2: Relationship satisfaction is negatively related to attribution bias
>
> H3: Conflict issue severity is positively related to attribution bias
>
> RQ1: Do perceived behaviors significantly predict attribution bias?

Does projection influence how participants perceive their roommates' behavior? Answering this question may also help understand the role of perceived behaviors. If perceived behaviors is largely dependent on internal factors, then projection may have a significant influence on these perceptions. If perceived behaviors are largely dependent on external factors, then projection may have no effect on behavioral perceptions.

> RQ2: Will projection affect perceptions of roommate behavior?

The theoretical model predicts that projection should have a significant influence on the relationship between variables. Specifically, projection will act as a moderating variable between attribution bias and its antecedent self-cognitions.

> H4: The predictive association between relationship satisfaction, conflict
> issue severity, and perceived behaviors with attribution bias is moderated
> by projection.

The final two hypotheses seek to support and replicate previous research about the relationships between attribution bias, emotions, and skillful conflict strategies.

H5: Attribution bias is negatively related to emotions

H6: Emotions are positively related to skillful conflict strategies

Chapter 2

METHODS

This chapter describes the study participants, procedures, and measures used to assess the theoretical concepts listed in the previous chapter.

<u>Participants</u>

The study's participants ($N = 509$) were recruited from multiple sections of an undergraduate communication course and received extra credit in exchange for completing the study. The sample was 63.5% female, 36.5% male and ranged in age from 18 to 28 years old ($M = 19.17$, $SD = 1.15$). Participants reported the amount of time they knew their roommate ranged from 0 to 216 months ($M = 16.81$, $SD = 24.85$).

<u>Procedure</u>

The study asked participants to complete a survey recalling the most memorable conflict they had with either a past or present roommate. Participants then responded to a series of questions about their thoughts, feelings, and behaviors in the conflict, as well as questions about their overall relationship with their roommate and perceptions of society in general.

General Projection

To measure general projection, two different scales were used, the Life Style Index (LSI)'s projection subscale and a newly generated scale. The LSI is a general 97-item questionnaire designed to measure eight different types of defense mechanisms. The projection subscale itself has 10 items. Conte, Plutchik, and Draguns (2004) support the usefulness of the projection subscale by claiming projection, compared to other defenses, "may be one of the concepts whose components are more readily agreed upon and one that is therefore more easily operationalized in statements about behavior" (p.396). Since its creation, the LSI has been used in a series of studies and has shown consistent construct validity (for a review, see Conte & Apter, 1995). The projection subscale has also shown consistent reliability across diverse samples (Conte & Plutchik, 1993). The original scale had participants choose between two responses, "usually true" and "usually not true." In this study, the scale was slightly modified to increase the number of responses participants could select from two to six choices (*1 = strongly disagree, 6 = strongly agree*). With the modification, the study's analysis found the LSI projection subscale demonstrated acceptable reliability ($\alpha = .79$).

However, the LSI projection subscale was not the only scale used for general projection. This choice was made in response to exploratory testing of the study's scales before the actual study was conducted. The preliminary testing raised some concerns about the reliability of the LSI subscale. Given the findings of previous LSI subscale studies which found acceptable reliability, the scale was still included in the final study, a

decision that was validated by the acceptable reliability result. However, just in case the LSI did not perform well, a second scale was created. The scale asked questions about participants' perceptions of society in general, specifically focusing on concepts like defensiveness (e.g. "I feel like I often need to protect myself in social situations") and judgment (e.g. "people who think too highly of themselves really annoy me"). Each item of the new scale was assessed with a six-point Likert scale (*1 = strongly disagree, 6 = strongly agree*).

The new general projection scale was then analyzed using an exploratory principal axis factor analysis with a direct oblimin rotation. Six of the nineteen items either cross-loaded or loaded weakly and were dropped. The resulting analysis revealed three factors with an eigenvalue greater than one (see Table 2.1). The first factor contained seven items about perceiving a consistent threat to self-esteem in social situations (e.g. "I feel like people are generally very critical toward me"). The factor accounted for 34.42% of the variance and demonstrated high reliability ($\alpha = .85$). The second factor contained three items about feeling irritation when thinking about other people with inflated self esteem (e.g. "arrogant people really bug me"). The factor accounted for 17.38% of the variance and demonstrated acceptable reliability ($\alpha = .74$). The third factor contained three items about other people behaving in ways a subject never would but not suffering negative social consequences from their behavior (e.g. "it really bothers me when people do things I would never even try and get away with it"). The factor accounted for 8.37% of the variance and demonstrated acceptable reliability ($\alpha = .76$).

In determining which general projection scale to use, there wasn't a clear choice because both the LSI subscale and the new general projection scale had approximately the same reliability. In the end, the new general projection scale was chosen because it contained a few more items (thus casting a wider net and examining multiple factors) and didn't raise any red flags like the LSI subscale did previously in exploratory testing. It should be noted that the practical difference between the two scales was minimal. The two scales were tested side-by-side in a correlation matrix with the other variables in this study, and the results indicated no apparent difference between the two scales. However, for the sake of simplicity, only one scale was used during the analysis, and that scale was the new general projection scale.

Relationship-Specific Projection

While there were established scales that measured general projection, there was no established scale to measure whether or not projection was present in a specific relationship. Therefore, a new scale was generated and used in this study. The scale focused on the trademark qualities (discussed in Chapter 1) that are present when someone is specifically projecting onto another person. The scale contained a series of questions to identify whether projection was taking place. Each question was assessed with a six-point Likert scale (*1 = strongly disagree, 6 = strongly agree*). The scale was then analyzed with an exploratory principal axis factor analysis with a direct oblimin rotation. Eleven scale items about two predicted factors, anger and anxiety, cross-loaded significantly and were dropped from the analysis. In addition, two other scale items

loaded weakly and were dropped. The resulting analysis revealed three factors with an

eigenvalue greater than one (see Table 2.2). The first factor contained seven items about

roommate behaviors that were contrary to a subject's own value system (e.g. "My

roommate behaves in ways that were seen as inappropriate when I was growing up").

The factor accounted for 52.99% of the variance and demonstrated very high reliability

(α = .95). The second factor contained four items about feeling envy towards the

roommate for getting away with the contrary behaviors (e.g. "I envy my roommate's

ability to say and do things I wouldn't"). The factor accounted for 11.53% of the

variance and demonstrated high reliability (α = .85). The third factor contained three

items about perceiving being judged by the roommate (e.g. "There are times when I think

my roommate is looking down on me"). The factor accounted for 9.98% of the variance

and demonstrated high reliability (α = .88).

Relationship Satisfaction

To assess roommate relationship satisfaction, a new five-item scale was generated

(e.g. "I'm satisfied with the way things are between me and my roommate"). Each item

was assessed on a six-point Likert scale (*1 = strongly disagree, 6 = strongly agree*). The

satisfaction scale was then analyzed using an exploratory principal axis factor analysis

with a direct oblimin rotation. The analysis revealed one factor with an eigenvalue

greater than one; the factor accounted for 88.52% of the variance. The scale

demonstrated very high reliability (α = .97).

<u>Conflict Issue Severity</u>

To explore participants' perceptions of how severe the conflict issue was, a new five-item scale was generated (e.g. "I felt like the issue was important to our overall relationship"). Each item was assessed with a six-point Likert scale (*1 = strongly disagree, 6 = strongly agree*). The issue severity scale was then analyzed using an exploratory principal axis factor analysis with a direct oblimin rotation. The analysis revealed one factor with an eigenvalue greater than one; the factor accounted for 71.23% of the variance. The scale demonstrated very high reliability ($\alpha = .90$).

<u>Attribution Bias</u>

Attribution bias was measured by using the Relationship Attribution Measure developed by Fincham and Bradbury (1992). The RAM was designed to assess causal and responsibility attributions between married spouses. The scale originally asked participants to imagine a hypothetical behavior of their spouse and determine what their interpretive response might be. Hypothetical behaviors were designed to be general yet plausible, including examples such as "your spouse criticizes something you say" and "your spouse is intolerant of something you do." For the purposes of this study, the RAM was modified to ask participants about attributions of their college roommates and about the memorable conflict specifically. This modification did not weaken the ecological validity of the RAM; the scale's original authors assessed this issue by testing whether or not the RAM produced different results for hypothetical behaviors versus actual behaviors. They found that both scenarios produced similar attributions (Fincham

& Bradbury, 1992). They also found the RAM was reliable by demonstrating adequate test-retest consistency. In addition, they found the RAM was valid by demonstrating a significant relationship between attribution responses and marital satisfaction.

In order to accurately measure causal and responsibility attributions, each were broken up into three sub-items. Causal attributions consisted of assessing locus, stability, and globality; responsibility attributions consisted of assessing blameworthiness, intentionality, and motivation by selfish concerns. Each item was assessed on a six-point Likert scale (*1 = strongly disagree, 6 = strongly agree*). In this study, the scale demonstrated high reliability ($\alpha = .87$).

Conflict Strategies

Conflict strategies were measured by combining and modifying two scales used in previous conflict research (Sillars, 1981; Canary et al., 1988). Sillars' scale was used because it was designed to measure college roommates and was crucial to the development of communication researchers dividing conflict strategies into three sub-groups (Sillars used the terms "integrative, "passive-indirect," and "distributive" to represent cooperative, avoidant, and hostile strategies). Canary et al.'s scale was used because it was designed to assess college students, it contained a fairly extensive range of categories, and it represented a synthesis of conflict strategy scales used in previous research.

The modified scale was assessed on a six-point Likert scale (*1 = strongly disagree, 6 = strongly agree*). The scale was then analyzed by an exploratory principal

axis factor analysis with a direct oblimin rotation. 21 of the 54 items either loaded cross-

loaded or loaded weakly and were dropped. The resulting analysis identified four factors

with an eigenvalue greater than one (see Table 2.3). The first factor contained 15 items

about cooperative strategies (e.g., "I tried to understand my roommate's point of view").

The factor accounted for 25.16% of the variance and demonstrated very high reliability

(α = .91). The second factor contained six items about passive strategies that took place

during the actual conflict (e.g., "I tried to change the subject"). The factor accounted for

13.34% of the variance and demonstrated high reliability (α = .82). The third factor

contained six items about aggressive and demonstrative distributive strategies (e.g., "I

tried to intimidate my roommate). The factor accounted for 9.24% of the variance and

demonstrated high reliability (α =.89). The fourth factor contained five items about

passive strategies that took place before the actual conflict occurred but were still part of

the same issue (e.g., "I avoided being around my roommate to avoid dealing with the

issue"). The factor accounted for 7.11% of the variance and demonstrated high reliability

(α = .84).

Behaviors

  To measure perceived behaviors, a new scale was created that asked 20 questions

about different types of observable behaviors of the roommate. The types included

questions about the roommate's eye contact (e.g. "my roommate avoided looking me in

the eyes"), vocal tone (e.g. "my roommate's tone of voice was critical), volume (e.g. "my

roommate raised his/her voice when talking to me"), and nonverbal immediacy (e.g. "my

roommate tried to create more physical space between us during the conflict"). Each

question was assessed on a six-point Likert scale (*1 = strongly disagree, 6 = strongly*

agree). The scale was then analyzed using an exploratory principal axis factor analysis

with a direct oblimin rotation (see Table 2.4). The items about eye contact cross-loaded

and were dropped from the analysis. In addition, three items about vocal tone cross-

loaded and were dropped. The resulting analysis revealed two factors with an eigenvalue

greater than one. The first factor contained seven items about how the roommate used

their voice (e.g. "my roommate spoke louder than normal"). The factor accounted for

58.04% of the variance and demonstrated very high reliability ($\alpha = .95$). The second

factor contained five items about the roommate's immediacy during the conflict (e.g. "my

roommate seemed farther away from me than normal"). The factor accounted for

19.89% of the variance and demonstrated very high reliability ($\alpha = .92$)

Emotions

Emotions were measured by adapting and modifying the Positive and Negative

Affect Schedule (PANAS) scale developed by Watson, Clark, and Tellegen (1988). The

scale is made up of two 10 item subscales, one measuring positive affect and one

measuring negative affect. Each item was assessed on a five-point Likert scale (*1 = very*

slightly or not at all, 5 = extremely). The PANAS scale was used because it synthesized

previous emotion scales into one final, polished version that assessed both positive and

negative emotions. In their article, Watson et al. (1988) offered support for the scale's

usefulness by providing evidence for its internal validity, external validity, and high

reliability across multiple, diverse samples. For the purposes of this study, several of the

positive affect items that appeared less relevant to conflict interactions (e.g. "enthusiastic,

excited") were replaced with other positive, more relevant affect items (e.g. "satisfied,

relieved").

The modified PANAS scale was assessed using an exploratory principal axis

factor analysis with a direct oblimin rotation (see Table 2.5). Seven of the seventeen

items either cross-loaded or loaded weakly and were dropped. The resulting analysis

revealed three factors with an eigenvalue greater than one. The first factor contained four

items about negative approach emotions (e.g. "angry"). The factor accounted for 30.10%

of the variance and demonstrated acceptable reliability ($\alpha = .78$). The second factor

contained three items about negative avoidance emotions (e.g. "ashamed"). The factor

accounted for 18.73% of the variance and demonstrated acceptable reliability ($\alpha = .76$).

The third factor contained three items about positive emotions (e.g. "relieved"). The

factor accounted for 16.25% of the variance and demonstrated below adequate reliability

($\alpha = .64$).

Table 2.1

Factor Analysis of General Projection

	1	2	3
Eigenvalue Total	4.48	2.26	1.09
% of Variance	34.42	17.38	8.37
Cumulative Variance	34.42	51.81	60.17
I feel like people are generally very critical toward me	*.778*	-.050	.085
I feel like I often need to protect myself in social settings	*.695*	-.016	-.014
I often feel judged when talking to others	*.694*	-.069	-.026
It's frequently hard to be myself because of how disapproving others can be	*.690*	.034	-.017
People often look down on me	*.651*	-.021	.005
I often feel the need to defend myself from others	*.615*	.014	-.046
Most people don't treat me as well as I would like to be treated	*.599*	.108	-.018
People who think too highly of themselves really annoy me	-.028	*.756*	-.027
People that brag are so annoying	-.025	*.679*	.015
Arrogant people really bug me	.033	*.646*	-.010

Table 2.1 continued

	1	*2*	*3*
It really bothers me when people do things I would never even try and get away with it	-.069	-.100	*-.930*
People that get away with things really irritate me	.025	.154	*-.571*
I often envy how easy it is for people to get away with things that I wouldn't try to get away with	.222	.091	*-.535*

Table 2.2

Factor Analysis of Roommate Projection

	1	*2*	*3*
Eigenvalue Total	7.42	1.61	1.40
% of Variance	52.99	11.53	9.98
Cumulative %	52.99	64.52	74.49
My roommate behaves in ways that were seen as inappropriate when I was growing up	*.913*	-.041	.005
If I were to act the way my roommate does around my parents, they would get really upset	*.855*	.049	-.078
My roommate often behaves in ways that were considered rude growing up in my house	*.836*	-.079	.089
When I was younger, I got in trouble for the kinds of things my roommate says and does now	*.832*	-.023	-.022
My roommate often does things I was taught never to do	*.821*	-.020	.034
My roommate gets away with things I would never try to do	*.627*	.237	.048
I can't believe what my roommate gets away with sometimes	*.608*	.199	.143
Sometimes I wish I could do and say some of the things my roommate does	-.035	*.822*	-.021

Table 2.2 continued

	1	2	3
I envy my roommate's ability to say and do things I wouldn't	-.084	.788	.012
I wish I could get away with some of the things my roommate gets away with	.183	.664	.005
I am sometimes jealous that my roommate gets away with things I can't	.185	.588	.121
There are times when I think my roommate is looking down on me	-.096	.032	.938
Sometimes I can sense my roommate is judging me	.048	-.053	.829
There are often times I can tell my roommate thinks she/he is better than me	.081	.031	.748

Table 2.3

Factor Analysis of Conflict Strategies

	1	2	3	4
Eigenvalue Total	8.30	4.40	3.05	2.35
% of Variance	25.16	13.34	9.24	7.11
Cumulative %	25.16	38.50	47.74	54.85
I asked my roommate about his/her thoughts and feelings	*.762*	-.054	.057	-.073
I explored possible solutions with my roommate	*.722*	.020	.038	-.074
I tried to understand my roommate's point of view	*.715*	-.002	-.106	.037
I tried to think of the best solution for both of us	*.688*	-.021	-.110	.102
I was willing to accept alternative solutions to the problem	*.663*	.095	-.040	.002
I listened closely to what my roommate had to say	*.651*	-.088	-.123	.017
I asked my roommate for information about his/her perspective to help increase my understanding	*.648*	-.012	.039	-.049
I openly acknowledged mistakes I made	*.634*	-.021	.071	.009
I demonstrated concern about my roommate's thoughts and feelings	*.614*	-.003	-.099	-.044

Table 2.3 continued

	1	*2*	*3*	*4*
I was sympathetic to my roommate's position	*.600*	.207	-.081	-.128
I compromised with my roommate	*.595*	.106	-.071	-.017
I accepted my fair share of responsibility for the conflict	*.592*	.008	.006	-.076
I sought a solution that would be mutually beneficial	*.592*	-.035	-.110	.052
I tried to provide information to help increase my roommate's understanding of my perspective	*.557*	-.182	.146	.147
I validated my roommate's thoughts and feelings	*.536*	.063	.038	-.002
I dismissed the issue as unimportant	-.156	*.676*	-.010	.032
I tried to change the subject	-.052	*.659*	.178	.147
I thought the issue wasn't worth arguing over	.016	*.639*	-.107	-.057
I tried to explain to my roommate why the issue wasn't a big deal	.138	*.628*	-.018	-.032
I changed the topic of discussion	.017	*.614*	.183	.161

Table 2.3 continued

	1	2	3	4
I tried to distract my roommate from the issue	.018	*.581*	.266	.159
I cursed at my roommate	-.009	-.007	*.798*	-.045
I raised my voice at my roommate	.005	-.055	*.796*	.003
I insulted my roommate	-.080	.012	*.773*	-.012
I showed my roommate that I had lost my temper	.041	.017	*.761*	-.021
I made threats towards my roommate	-.018	.047	*.686*	-.033
I tried to intimidate my roommate	-.041	.166	*.671*	-.060
I criticized a part of my roommate's personality	-.079	.006	*.568*	.165
I avoided being around my roommate to avoid dealing with the issue	-.061	-.131	.122	*.761*
I tried to postpone dealing with the issue as long as possible	-.008	.108	-.068	*.742*
I tried to ignore the issue	-.049	.184	-.121	*.724*
I stopped talking as much with my roommate in order to avoid dealing with the issue	-.073	-.116	.155	*.697*
I tried to let the issue resolve itself	.116	.154	-.135	*.652*

Table 2.4

Factor Analysis of Perceived Behaviors

	1	2
Eigenvalue Total	6.96	2.39
% of Variance	58.04	19.89
Cumulative %	58.04	77.93
My roommate raised his/her voice when talking to me	*.976*	-.062
I felt like my roommate was shouting at me at times	*.943*	-.037
My roommate spoke louder than normal	*.940*	-.076
My roommate tried to raise his/her voice to make a point	*.931*	-.050
It bothered me how loud my roommate was during the conflict	*.862*	.020
My roommate was really disrespectful in how he/she talked to me	*.630*	.277
My roommate's tone of voice was critical	*.557*	.297
I felt like my roommate was physically distant from me	-.068	*.915*
My roommate seemed farther away from me than normal	-.031	*.864*
My roommate seemed closed off from me	-.006	*.834*

Table 2.4 continued

	1	*2*
My roommate tried to create more physical space between us during the conflict	.019	*.802*
I didn't feel like my roommate was very approachable	.136	*.729*

Table 2.5

Factor Analysis of Emotions

	1	2	3
Eigenvalue Total	3.01	1.87	1.63
% of Variance	30.10	18.73	16.25
Cumulative %	30.10	48.83	65.08
Irritated	.767	-.216	.064
Frustrated	.708	-.222	.101
Angry	.642	.261	-.123
Distressed	.610	-.026	.038
Ashamed	.046	.771	.014
Afraid	.001	.734	.076
Guilty	-.189	.646	-.092
Optimistic	-.112	-.019	.728
Relieved	.036	-.130	.596
Sympathetic	.073	.155	.543

Chapter 3

RESULTS

Table 3.1

Correlation Table of Study's Variables

	Room Proj	Relat Satis	Issue Sever	Percei Behav	Attrib Bias	Pass Strats	Coop Strats	Dest Strats	Neg Appro Emots	Neg Avoid Emots	Pos Emots
Room Proj		-.47*	.31*	.46*	.67*	.29*	-.18*	.29*	.32*	-.14*	.09°
Relat Satis	-.47*		-.24*	-.30*	-.55*	-.20*	.30*	-.19*	-.25*	.12*	.01
Issue Sever	.31*	-.24*		.24*	.47*	-.05	.07	.18*	.25*	-.04	.09°
Percei Behav	.46*	-.30*	.24*		.56*	.31*	-.17*	.62*	.53*	-.15*	.13*
Attrib Bias	.67*	-.55*	.47*	.56*		.30*	-.26*	.45*	.46*	-.21*	.05
Pass Strats	.29*	-.20*	-.05	.31*	.30*		-.10°	.25*	.15*	.05	.04
Coop Strats	-.18*	.30*	.07	-.17*	-.26*	-.10°		-.31*	-.19*	.24*	.06
Dest Strats	.29*	-.19*	.18*	.62*	.45*	.25*	-.34*		.46*	-.16*	.08
Neg Appro Emots	.32*	-.25*	.25*	.53*	.46*	.15*	-.19*	.46*		-.23*	.14*
Neg Avoid Emots	-.14*	.12*	-.04	-.15*	-.21*	.05	.24*	-.16*	-.23*		-.13*
Pos Emots	.09°	.01	.09°	.13*	.05	.04	.06	.08	.14*	-.13*	

Notes: ° $p < .05$; * $p < .01$

Hypothesis 1 predicted general projection was positively related to projecting onto one's roommate. To test this relationship, multiple regression analysis was used. The analysis revealed the model significantly predicted roommate projection. The model accounted for 9.4% of the variance, adjusted $R^2 = .09$, $F(1, 507) = 52.7$, $p < .001$. General projection was a significant predictor of roommate projection ($B = .31$, $t = 7.3$, $p < .001$). Thus, Hypothesis 1 was supported.

Hypothesis 2 and Hypothesis 3 sought to replicate previous research of significant predictors of attribution bias. Hypothesis 2 predicted relationship satisfaction was negatively related to attribution bias. Hypothesis 3 predicted conflict issue severity was positively related to attribution bias. In addition, Research Question 1 inquired about the relationship between perceived behaviors and attribution bias.

To test these three relationships, a single multiple regression analysis was conducted with the three predictors as the independent variables and attribution bias as the dependent variable. Regression analysis revealed the model significantly predicted attribution bias. The model accounted for 54.7% of the variance, adjusted $R^2 = .55$, $F(3, 505) = 205.7$, $p < .001$. All three independent variables were significantly related to attribution bias. Relationship satisfaction was a significant negative predictor of attribution bias ($B = -.36$, $t = -11.4$, $p < .001$). Conflict issue severity was a significant predictor of attribution bias ($B = .29$, $t = 9.2$, $p < .001$). Perceived behavior was a significant predictor of attribution bias ($B = .38$, $t = 12.1$, $p < .001$). Thus, Hypothesis 2 and Hypothesis 3 were supported, and Research Question 1 found perceived behavior was positively related to attribution bias.

Research Question 2 inquired about the relationship between projection and perceived behavior. Regression analysis revealed the model significantly predicted attribution bias. The model accounted for 21.1% of the variance, adjusted $R^2 = .21$, $F(1, 507) = 135.7$, $p < .001$. Projection was a significant predictor of perceived behavior ($B = .46$, $t = 11.6$, $p < .001$). Thus, Research Question 2 found projection was positively related to perceived behavior.

Hypothesis 4 predicted projection would moderate the association between relationship satisfaction, conflict issue severity, and perceived behaviors with attribution bias (it should be noted that from this point forward, the term "projection" will refer to roommate-specific projection). To test this hypothesis, a median split of the sample was made based upon the scores of projection. The resulting two groups were identified as "high projection" and "low projection." Then, for each group, multiple regression analyses were conducted between the independent variables (relationship satisfaction, conflict issue severity, perceived behaviors) and the dependent variable (attribution bias). Six beta weights were obtained in total, two for each association. To test whether each pairing contained significantly different beta coefficients, a z-test was conducted (see Clogg, Petkova, & Haritou, 1995; Paternoster, Brame, Mazerolle, & Piquero, 1998).

Results are displayed in Table 3.2. A moderation effect was found for the association between relationship satisfaction and attribution bias ($z = 2.45$, $p < .01$). For participants with high projection, the association between relationship satisfaction and attribution bias was higher ($B = -.37$) than for participants with low projection ($B = -.22$). A moderation effect was not found for the association between conflict issue severity and

attribution bias ($z = 1.12$, $p = .12$). A moderation effect was also not found for the

association between perceived behaviors and attribution bias ($z = 1.18$, $p = .12$). Thus,

Hypothesis 4 received partial support.

Table 3.2

Predictors of Attribution Bias with Projection as a Moderator

	Relationship Satisfaction	Issue Severity	Perceived Behaviors
High Projection *B*	-.37	.35	.32
Low Projection *B*	-.22	.28	.40
High Projection *SE*	.033	.038	.041
Low Projection *SE*	.052	.041	.052
Z-Score	*2.45**	*1.20*	*1.18*

Notes: * p < .01

Hypothesis 5 predicted attribution bias was negatively related to emotions; the

more a participant engaged in attribution biases, the less positive a participant's

emotional state would be. To test this hypothesis, the dependent variable "emotions" was

broken up into three dependent variables because the PANAS scale includes both positive

and negative emotions and does not produce a single, cumulative rating. The number

three was chosen based upon results of the PANAS scale factor analysis, which identified

three factors. The three factors were negative approach emotions (e.g. "anger"), negative

avoidance emotions (e.g. "ashamed), and positive emotions (e.g. "optimistic").

Therefore, three multiple regression analyses were run with attribution bias as the

independent variable each time and the three emotion factors as the dependent variables.

The first multiple regression tested the relationship between attribution bias and

negative approach emotions. Regression analysis revealed the model significantly

predicted negative approach emotions. The model accounted for 21.1% of the variance,

adjusted $R^2 = .21$, $F(1, 507) = 135.5$, $p < .001$. Attribution bias was a significant

predictor of negative approach emotions ($B = .46$, $t = -11.6$, $p < .001$).

The second multiple regression tested the relationship between attribution bias

and negative avoidance emotions. Regression analysis revealed the model significantly

predicted negative approach emotions. The model accounted for 4.4% of the variance,

adjusted $R^2 = .04$, $F(1, 507) = 23.4$, $p < .001$. Attribution bias was a significant negative

predictor of negative avoidance emotions ($B = -.21$, $t = -4.8$, $p < .001$), however not in the

hypothesized direction.

The third multiple regression tested the relationship between attribution bias and

positive emotions. Regression analysis revealed the model did not significantly predict

positive emotions. The model accounted for .2% of the variance, adjusted $R^2 = .00$, $F(1,$

$507) = 1.1$, $p = .30$. Attribution bias was not a significant negative predictor of positive

emotions ($B = .05$, $t = 1.0$, $p = .30$). Thus, combining the three regression analyses,

Hypothesis 5 received partial support.

Hypothesis 6 predicted emotions were positively related to conflict strategies; the

more positive a participant's emotional state, the more a participant would choose

skillful, positive conflict strategies. To test this hypothesis, three multiple regression analyses were conducted. Each test included the same three independent variables: negative approach emotions, negative avoidance emotions, and positive emotions. The dependent variable "conflict strategies" was broken down into three variables: passive conflict strategies, cooperative conflict strategies, and destructive conflict strategies. Each of the three conflict strategies were used separately as the dependent variable in the three regressions.

The first multiple regression tested the relationship between emotions and passive conflict strategies. Regression analysis revealed the model significantly predicted passive conflict strategies. The model accounted for 2.9% of the variance, adjusted $R^2 = .02$, $F(3, 505) = 5.09$, $p = .002$. Negative approach emotions were a significant predictor of passive conflict strategies ($B = .16$, $t = 3.6$, $p < .001$). Negative avoidance emotions were also a significant predictor of passive conflict strategies ($B = .09$, $t = 2.1$, $p = .04$). Positive emotions were not a significant predictor of passive conflict strategies ($B = .03$, $t = .6$, $p = .54$).

The second multiple regression tested the relationship between emotions and cooperative conflict strategies. Regression analysis revealed the model significantly predicted cooperative conflict strategies. The model accounted for 8.7% of the variance, adjusted $R^2 = .08$, $F(3, 505) = 16.1$, $p < .001$. Negative approach emotions were a significant negative predictor of cooperative conflict strategies ($B = -.15$, $t = -3.5$, $p = .001$). Negative avoidance emotions were a significant predictor of cooperative conflict strategies, though not in the hypothesized direction ($B = .22$, $t = 5.0$, $p < .001$). Positive

emotions were a significant predictor of cooperative conflict strategies ($B = .11$, $t = 2.5$, $p = .012$).

The third multiple regression tested the relationship between emotions and destructive conflict strategies. Regression analysis revealed the model significantly predicted destructive conflict strategies. The model accounted for 21.5% of the variance, adjusted $R^2 = .21$, $F(3, 505) = 46.1$, $p < .001$. Negative approach emotions were a significant predictor of destructive conflict strategies ($B = .45$, $t = 10.9$, $p = .001$). Negative avoidance emotions were not a significant predictor of destructive conflict strategies ($B = -.06$, $t = -1.3$, $p = .18$). Positive emotions were also not a significant predictor of destructive conflict strategies ($B = .01$, $t = .3$, $p = .77$). Thus, combining the three regression analyses, Hypothesis 6 received partial but meaningful support.

Table 3.3

Summary of Hypotheses Results

Hypothesis	*Outcome*
Hypothesis 1	Supported
Hypothesis 2	Supported
Hypothesis 3	Supported
Hypothesis 4	Partially Supported
Hypothesis 5	Partially Supported
Hypothesis 6	Partially Supported
Research Questions	*Outcome*
RQ 1	Significant Relationship Found
RQ 2	Significant Relationship Found

Post-Hoc Analysis

After the data analysis was performed for the hypotheses and research questions, two post-hoc analyses were conducted. The first analysis tested the relationship between projection and attribution bias directly to examine projection's strength as a predictor, rather than as a moderator. To test this, projection was included in the multiple regression analysis of predictors of attribution bias, along with relationship satisfaction, conflict issue severity, and perceived behavior. The test was then re-run with all four predictors as the independent variables and attribution bias as the dependent variable. The regression analysis revealed the model significantly predicted attribution bias. The model accounted for 63.0% of the variance, adjusted $R^2 = .63$, $F(4, 504) = 217.0$, $p <$

.001. The variance accounted for represented an increase of 8.3% with projection included. As an independent variable, projection was a significant predictor of attribution bias ($B = .36$, $t = 10.6$, $p < .001$). Of note, projection emerged as the strongest predictor of attribution bias among the four independent variables (see Table 3.4).

Table 3.4

Predictors of Attribution Bias with Projection Included

	B	*Std. Error*	*Beta*	*t*	*p <*
Projection	.41	.04	.36	10.65	.001
Relationship Satisfaction	-.22	.03	-.24	-7.77	.001
Conflict Issue Severity	.22	.03	.24	8.28	.001
Perceived Behavior	.29	.03	.27	8.73	.001

Given the predictive strength of projection on attribution bias, and the emergence of negative approach emotions as distinct from negative avoidance emotions in predicting unskillful conflict strategies, a second analysis was conducted to measure the overall strength of the theoretical model with projection included as a variable rather than a moderator. To test the model, SEM Analysis was used. SEM was chosen because it specializes in simultaneously testing causal relationships among numerous variables. SEM provides evidence for how well a particular model fits the data while avoiding the risk of error that comes from running multiple regressions consecutively.

Initial results of the hypothesized theoretical model indicated strong support for the relationships between variables, but poor overall model fit. To help interpret these results, I consulted a type of information AMOS provides called "modification indices," A modification index is a number that describes how the overall fit of the model would improve if a relationship was estimated between two variables previously hypothesized to be unrelated (Byrne, 2001). Modification indices are useful because they reflect the extent to which a model is appropriately drawn and where the model may have broken down. AMOS conducts modification indices for every potential relationship between any two variables that were not previously tested and shows the potential changes in model fit. In general, most modification indices don't indicate much change with the additional estimate (there's a reason the variables were not hypothesized to be related in the first place); however modification indices can serve to indicate relationships that may have been originally missed. The risk in using them is they can lead to an overfitted model because they can introduce new relationships for the sole purpose of increasing model fit, without these estimates contributing any further theoretical significance (Bynre, 2001). Thus, modification indices should be used with caution, and only for a good reason.

Despite these constraints, modification indices are useful in showing what relationships exist that are unexpected and/or unpredicted. Joreskog and Sorbom (1993) argue there are many situations, particularly with social psychological research, where including additional estimates makes strong substantive sense and therefore should be included in the model. In this study's case, because the model explored new relationships

that were previously untested, there was sound theoretical justification for examining

what other potential relationships existed.

Examining the modification indices of the hypothesized model, there was strong

evidence perceived behaviors should be used as a predictor of negative approach

emotions and destructive conflict strategies, in addition to being a predictor of attribution

bias. The numbers indicated two substantial, meaningful relationships that had not been

hypothesized. With these two modifications added to the model, the analysis was re-run.

The results showed a model that fit the data well (see Table 3.5). Each fit statistic was

within the recommended value for a model that fits the data well (Byrne, 2001). For the

hypothesized relationships between variables, each regression coefficient was significant

at $p < .001$ (see Figure 3.1). Thus, the new theoretical model was a good fit for

understanding destructive conflicts and showed the importance of adding projection to

the model.

Table 3.5

Fit Statistics for SEM Analysis

	Comparative Fit Index	*RMSEA*	*Confidence Interval*	χ^2	*df*	*p <*	*N*
New Theoretical Model	.993	.050	.016 to .083 *p* close =.46	15.759	7	.027	509

.46

.24   -.47

| Perceived Behaviors | -.30 | Relationship Satisfaction | -.24 | Issue Severity | .37 | Roommate Projection |

-.24   .24

.27

.36

Attribution Bias

.39

.24

.52

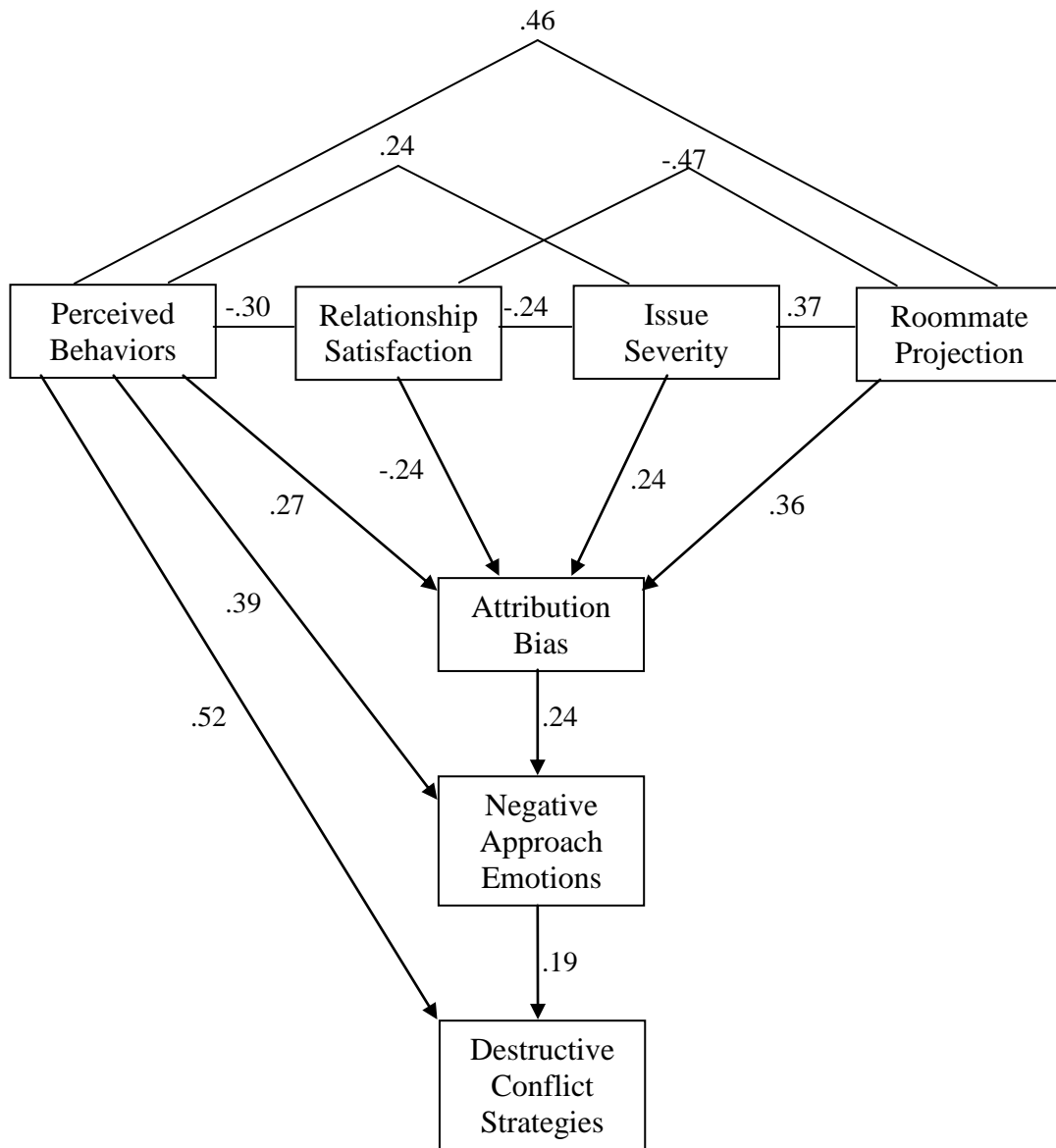Negative Approach Emotions

.19

Destructive Conflict Strategies

Figure 3.1   *SEM Analysis of Full Model with Negative Approach Emotions and Destructive Conflict Strategies. Projection Added as a Predictor.*

Notes: All coefficients are standardized. Each numerical value listed above is statistically significant at $p < .001$.

Chapter 4

DISCUSSION

This study was conducted to increase our understanding of negative conflicts. Specifically, it investigated a missing piece of the literature: how do we explain theoretically why certain people are more prone to attribution bias in conflicts? Finding the answer may indicate new, undiscovered sources of negative behaviors and offer the potential to change those behaviors.

This study introduced projection as an explanatory and predictive variable of attribution bias. The results indicate strong support for this addition to conflict research. This chapter will discuss the results of the statistical analysis performed, the limitations of the research conducted, and directions for future research.

General Projection

The study hypothesized general projection predicted roommate-specific projection. Results supported the hypothesis; the more likely one was to project, the more likely one actually projected onto the roommate. This finding has two important consequences. First, it supports the predictive aspect of the study: certain people are more prone to projection, their tendency to project can be measured, and this effect can be seen in action onto a specific person. This link is important given how projection can

affect conflicts (as discussed later in this chapter). Second, the finding supports the idea that the tendency to project is universal regardless of the projector's level of familiarity with the target. In other words, the tendency to project manifests itself regardless of whether the target is a stranger or acquaintance, where there are less social consequences for projecting, or is an intimate. Therefore, projection appears to be a relevant factor in any interpersonal conflict. Finally, it appears to meet the qualifications, established in the first chapter, for a missing theoretical bias that accounts for everyday, mundane conflicts specifically relevant to non-clinical samples.

Predictors of Attribution Bias

In connection with previous research, this study hypothesized relationship satisfaction and conflict issue severity were self-cognitions that predicted attribution bias. Specifically, relationship satisfaction was hypothesized to negatively predict attribution bias, while conflict issue severity was hypothesized to positively predict attribution bias. Results indicated strong support for these two findings. People who reported generally liking their roommate more were less likely to blame their roommate for the conflict, believe their roommate was acting selfishly, or think the conflict was caused by the personality of the roommate. Conversely, people who reported thinking the topic of the conflict was consequential were more likely to believe the conflict was unsolvable, think the issue would spill over into other aspects of their relationship, and be convinced their roommate intentionally wanted to have the conflict. Thus, this study's findings are consistent with previous research.

This study also inquired about the role of perceived behaviors. It asked two questions: do perceived behaviors predict attribution bias, and does projection predict perceived behaviors? Results indicated the answer to both questions was "yes." The more negatively participants perceived their roommate's behavior, the more likely participants engaged in attribution bias. This suggests that perceptions of behavior are salient in conflicts. In addition, the more participants projected onto their roommates, the more likely they perceived their roommate's behavior negatively. This suggests that perceptions of behavior can be highly influenced by internal factors and are vulnerable to becoming biased. This vulnerability is not a surprise given the nature of how projection works. Recalling Chapter 1, projection acts as a distorting lens to create a more hostile reality (Cramer, 2008). Since perceptions of behavior pass through this lens, it follows that the more people project, the more negative their perceptions become. Taken together, both results indicate perceptions of behaviors are one important source of self-cognitions that help differentiate between skillful and unskillful conflicts.

Projection as a Moderator

This study hypothesized projection would moderate the three predictors of attribution bias (relationship satisfaction, issue severity, and perceived behaviors). Results indicated mixed support: a significant moderation effect was found for relationship satisfaction but not for issue severity or perceived behaviors. It is not clear why one of the three predictors of attribution bias was significantly moderated by projection but the other two were not. One explanation is that the test used for the

moderation effect was especially stringent, limiting the possibility of obtaining a

significant result for all three predictors. Another explanation is that the hypothesis was

simply incorrect. Regardless, there was not enough support for projection to fit as a

moderating variable in the model.

Attribution Bias and Emotions

This study hypothesized attribution bias negatively predicted participants'

emotions. Results found mixed support for this hypothesis. As predicted, participants

who had higher levels of attribution bias also experienced increased negative approach

emotions like anger and frustration. Interestingly, participants who had higher levels of

attribution bias experienced decreased negative avoidance emotions like guilt and fear,

opposite of what was originally hypothesized. No relationship was found between

attribution bias and positive emotions.

Upon closer inspection, these results are not inconsistent with the existing

literature on emotions. According to appraisal theory, each emotion has a distinct pattern

that separates it from any other emotion (Lazarus, 1991). In the case of negative

approach emotions like anger, they result (in part) from assigning blame onto another

person. Since one of the components of attribution bias is blaming the other person, it is

no surprise that attribution bias activates the negative approach emotions associated with

blame. However, negative avoidance emotions like guilt behave differently. They result

from internalizing a sense of responsibility for what's happened, rather than blaming

others (Omdahl, 1995). Negative avoidance emotions are therefore considered

antithetical to blame (Rothschild, Landau, Sullivan, & Keffer, 2012). Thus, from the perspective of appraisal theory, it is no surprise that participants who experienced higher levels of attribution bias also experienced lower levels of negative avoidance emotions. Furthermore, research has found that the tendency to experience negative avoidance emotions is actually considered healthy (Orth, Robins, & Soto, 2010) and beneficial (Leith & Baumeister, 1998; Covert, Tangney, & Maddux, 2003). This means that, for the purposes of identifying the link between attribution bias and negative conflict strategies, negative approach emotions are the emotions that matter.

Emotions and Conflict Strategies

This study hypothesized participants' emotions positively predicted conflict strategies. That is, the more positive one's emotional state, the more skillful one's choice of conflict strategies. Results generally supported this hypothesis. Participants experiencing negative approach emotions were more likely to use passive and destructive conflict strategies, and were less likely to use cooperative strategies. Participants experiencing negative avoidance emotions were more likely to use passive strategies. Of note, they were also more likely to use cooperative strategies, opposite of what was hypothesized. No relationship was found between negative avoidance emotions and destructive strategies. Finally, participants experiencing positive emotions were more likely to use cooperative strategies and less likely to use destructive strategies. No relationship was found between positive emotions and passive strategies.

The results obtained in this study are consistent with the view that emotions are an important factor in predicting how one behaves in conflict situations. If one is able to stay calm and sympathetic to another person's perspective during the conflict, then one is more likely to act skillfully. Conversely, if one experiences significant levels of negative affect like anger and frustration, one is less likely to act skillfully. Interestingly, the exception to this rule appears to be negative avoidance emotions. Participants who experienced seemingly negative emotions like guilt were actually more likely to use cooperative strategies and were not more likely to use destructive strategies. Although this result was opposite of what was predicted, it is consistent with a recent emerging body of research. While many studies have provided empirical support for the distinction between positive and negative emotions (Waldinger, Schulz, Hauser, Allen, & Crowell, 2004), and negative emotions tend to be highly correlated (Leary & Springer, 2001; Covert et al., 2003; Sanford & Rowatt, 2004), the distinction between specific negative emotions is meaningful because they have different effects (Waldinger et al, 2004, Sanford, 2012). Recent studies have found emotions like anger and contempt make up one factor that is consistently distinct from emotions like guilt and sadness, which make up another factor (Johnson, 2002; Sanford & Rowatt, 2004). Researchers have frequently described these two factors as "hard" emotions and "soft" emotions (Dimidjian, Martell, & Christensen, 2002, Jacobson & Christensen, 1996), which is similar to this study's language of "negative approach" emotions and "negative avoidance" emotions. Hard emotions are more likely to lead to lower relationship satisfaction (Clark & Finkel, 2004; Feeney, Noller, & Roberts, 1998, Sanford & Rowatt, 2004), and negative communication

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(Sanford, 2007), while soft emotions are more likely to lead to higher relationship satisfaction and positive communication. The results of this study support the distinction between hard and soft emotions and how soft, traditionally negative emotions can actually lead to positive behaviors in conflicts.

Projection in the Full Model

The final analysis of this study was conducted post-hoc and was designed to directly assess whether projection is important in understanding why conflicts go bad. To test this, the theoretical model was tailored to specifically measure negative conflicts only, which meant predicting what led to attribution bias, negative approach emotions, and destructive conflict strategies. Projection was included as an antecedent predictor of attribution bias. The analysis indicated that projection fit exceptionally well into the model of negative conflicts as an antecedent predictor. In addition, of the four total predictors of attribution bias (perceived behaviors, relationship satisfaction, conflict issue severity, and projection), projection emerged as the strongest predictor. That is, the degree participants were projecting onto their roommates was more important in understanding the content of their thoughts during the conflict than how they perceived their roommates' behavior, how much they liked their roommate, or how important they perceived what they were arguing about was. The results therefore strongly support this study's main hypothesis that projection is a significant variable in understanding negative conflicts. Participants who projected onto their roommate were significantly more likely

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to engage in attribution bias, which led to high negative emotional arousal and destructive conflict strategies.

<div align="center">Limitations</div>

While this study provides evidence for a new understanding of negative conflicts, it has several limitations that need to be noted. First, this study had methodological limitations with the scales used. For example, the PANAS scale used to measure emotions did not work as effectively as originally hoped. Although the scale has received substantial support for its reliability and its distinguishing between positive and negative emotions (Watson et al., 1988), and has been cited in over 2000 scholarly papers (Thompson, 2007), it did not prove to be a good fit for the present study. Of particular concern was the scale for positive emotions, which contained only three items in the final analysis and was the only scale in the entire survey that produced less than acceptable reliability. It should be remembered that the scale was modified from its original design to include items like "relieved" and optimistic" that appeared more relevant to conflicts, rather than "enthusiastic" and "active." Perhaps unsurprisingly, "relieved" and "optimistic" became two of the three items that made up the final positive affect factor. In hindsight, the need to change the scale at all should have indicated the PANAS Scale was not the best fit and another scale should have been used in its place.

In re-reading the original article detailing the development of the PANAS Scale, the authors described high positive affect as feeling "energized, alert, and engaged" while low positive affect as feeling "lethargy" (Watson et al., 1988). These emotions do not fit

in well with how positive affect is likely experienced in conflicts. A participant feeling energized, alert, and engaged during a conflict could just as easily experience those feelings in a negative way. Therefore, the positive affect scale was only questionably effective for measuring positive emotions. A scale that was more directly applicable to conflicts would have been better.

The other limitation with the scales in this study is the number of scales used that were either new and therefore untested; or established scales that were modified from their original design. This was done largely out of necessity because this was the first formal test of some of these concepts. However, it meant that a lot of new ground was broken all at once. This concern is somewhat mollified by the high reliability obtained for most of the scales used. Nevertheless, it is a limitation worth noting when interpreting the results.

Demographically, this study is limited because its sample is made up exclusively of undergraduates with an average age of 19 years old. Undergraduate samples can be more homogenous and therefore more difficult to generalize to the greater population (Peterson, 2001). In addition, particular to this study, the tendency to project changes depending on a person's age. This tendency increases to peak level in adolescence through late adolescence. While projection remains the most common type of defense mechanism among adults (Cramer, 2004; Cramer & Block, 1998), it does decline somewhat in adulthood. Therefore, given the sample demographics, it is possible that age has an impact on the results.

One final limitation of note is the inherent difficulty of studying projection. By definition, projection is unconscious and therefore resistant to being easy quantified. For this reason, many studies of projection thus far have been qualitative in nature and limited in scope. Social desirability factors can also cause participants to be more reticent in disclosing behaviors and attitudes that are consistent with projection. This is especially true in studies like this one that rely exclusively on self-report survey data. Without having an objective source of data in addition to the self-report data, it is hard to know what, if any, important information participants omitted in their subjective perspectives. Therefore, it is important to keep in mind that this study represents a first step in understanding how projection operates, and that more research is needed to support the findings of this study.

Future Research

The results of this study indicate projection is an important variable to study in conflict interactions. This is the first study to examine projection in a quantitative, communication setting. As such, despite the significant, meaningful results, further research is needed to replicate the results and address the limitations mentioned previously. One important aspect would be to replicate the results of this study in other, more diverse samples; particularly focusing on older adults. Such a study could provide support to projection as important in understanding negative conflicts regardless of the age of the participants.

A second area of future research could focus on broadening the source of data to provide a more complex understanding of projection in conflicts. This could include obtaining data from both participants in the conflict; as well as observing the participants in a laboratory setting. These additional data sets could allow researchers to objectively analyze research questions such as how much projection skews one's perceptions in a self-serving way, how projection manifests itself on a moment-to-moment basis, and how conflicts work out among people with different levels of projection (high projector and low projector, medium projector and medium projector, etc.). These findings would only deepen our understanding of how projection works in conflicts.

Finally, future research could begin to address the question of how to solve the problem projection poses. In other words, if conflict behaviors are impacted by unconscious motives via projection, and these motives result in negative, unskillful behaviors, then how does one break the pattern? What would an effective intervention look like? Such research would be very valuable because there have been no studies to date examining possible solutions. Recalling Sillars and Weisberg (1987), rational understanding of the problem is not enough to produce behavior change; something more is needed. Research examining what that something is would be vital to improving conflict interactions and their outcomes.

Conclusion

This study came about in large part because of how much quality research has already been done on conflicts. Researchers have already identified what separates good conflicts and bad conflicts, what behaviors are particularly destructive, and how these factors affect the overall health of the relationship between the two conflict participants. What was missing was a theoretical understanding for why conflicts turned sour in the first place; particularly among people who should have been smart enough to know better and skilled enough to perform better. This study proposed that projection accounts for the discrepancy. Specifically, conflicts become increasingly negative as a person projects more onto another, and this unconscious projection overrides the person's rational abilities. The person then increasingly blames the other, becomes flooded by overwhelming negative emotions, and engages in negative and unskillful behaviors that further poison the conflict.

The results of this study support the usefulness of projection and how it fits into the overall conflict model. Projection fits the criteria for finding an explanation that accounts for normal, everyday conflicts yet is impactful enough to account for why they become negative. More research is needed to further support this view, but the preliminary results are encouraging. In the future, the hope is that research not only clarifies our understanding of where the problems are, but builds towards finding the solutions to improving our communication as well.

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APPENDIX A

GENERAL PROJECTION – LIFE STYLE INDEX (LSI)

Below are questions about how you perceive <u>society in general</u>. Answer each question for how accurately it represents your general thoughts and feelings about others.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1) People who try to get their way by yelling and screaming make me sick.
2) Most people annoy me because they are too selfish.
3) I believe people will take advantage of you if you are not careful.
4) One of the things I hate about people is that they are insincere.
5) I hate people who always try to be the center of attention.
6) Most people are obnoxious.
7) I am irritated because people can't be trusted.
8) People with low moral standards make me sick.
9) I hate people who step on others in order to get ahead.
10) I think it is disgusting how most people lie to get ahead.

APPENDIX B

GENERAL PROJECTION – NEW SCALE

The following questions ask about how you perceive people <u>in general</u> and how they behave. Answer each question by indicating how strongly you agree or disagree with the statement

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1) I feel like people are generally very critical toward me
2) People often look down on me
3) I often feel judged when talking to others
4) It really bothers me when people do things I would never even try and get away with it
5) I feel like I often need to protect myself in social settings
6) People who frequently judge others really bother me
7) I often feel the need to defend myself from others
8) People who think too highly of themselves really annoy me
9) Most people don't treat me as well as I would like to be treated
10) It's frequently hard to be myself because of how disapproving others can be
11) In my experience, most people focus on the negative traits of others rather than their positive traits
12) I feel like most people don't live by a strong sense of values
13) I often envy how easy it is for people to get away with things that I wouldn't try to get away with
14) People that get away with things really irritate me
15) I get angry when I see someone get something they don't really deserve
16) I can't stand people who take more credit than they should
17) People that brag are so annoying
18) Arrogant people really bug me
19) Some people are so full of themselves

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ROOMATE-SPECIFIC PROJECTION SCALE

The questions below ask you about <u>your roommate in general</u>. Respond to each statement by stating how accurately it represents your <u>overall thoughts, feelings, and observations</u> about your roommate.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1) My roommate gets away with things I would never try to do
2) When I was younger, I got in trouble for the kinds of things my roommate says and does now
3) My roommate behaves in ways that were seen as inappropriate when I was growing up
4) My roommate often does things I was taught never to do
5) My roommate often behaves in ways that were considered rude growing up in my house
6) If I were to act the way my roommate does around my parents, they would get really upset
7) I can't believe what my roommate gets away with sometimes
8) There are times when I think my roommate is looking down on me
9) There are often times I can tell my roommate thinks she/he is better than me
10) Sometimes I can sense my roommate is judging me
11) My roommate thinks he/she is greater than he/she really is
12) My roommate acts like a slob around me
13) Sometimes I wish I could do and say some of the things my roommate does
14) I envy my roommate's ability to say and do things I wouldn't
15) I am sometimes jealous that my roommate gets away with things I can't
16) I wish I could get away with some of the things my roommate gets away with
17) The things my roommate gets away with make me angry
18) I often get mad about the things my roommate says and does
19) I get irritated with the way my roommate acts
20) The way my roommate handles things often makes me mad
21) I get irritated being around my roommate

22) The things my roommate says and does often make me nervous
23) I get anxious when I am around my roommate
24) My roommate's behavior is a source of worry for me
25) The way my roommate acts makes me tense
26) I often worry that my roommate will embarrass me
27) I often worry that my roommate will get us both in trouble

APPENDIX D

RELATIONSHIP SATISFACTION

The statements below ask about your <u>overall relationship with your roommate</u>. Please respond to each statement by indicating your agreement with how accurately it depicts your relationship.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1) Overall, my roommate and I have a good relationship
2) I like spending time with my roommate
3) I'm satisfied with the way things are between me and my roommate
4) I enjoy being around my roommate
5) My roommate and I get along well

APPENDIX E

CONFLICT ISSUE SEVERITY

Below are statements about the <u>specific conflict you had with your roommate</u>. Think about the issue/topic that you had the conflict over and indicate how strongly you agree with each statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1) I felt like the issue was important to our overall relationship
2) It was an important issue to talk about
3) The issue had an impact on our future together
4) I knew we needed to address the issue because of its significance
5) The issue we talked about was worth arguing about

APPENDIX F

ATTRIBUTION BIAS – RELATIONSHIP ATTRIBUTION MEASURE (RAM)

These statements ask you about how you thought and perceived <u>the conflict as a</u> <u>whole</u>. Indicate how strongly you disagree or agree with each statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1) My roommate's behavior was due to something about him/her as a person (e.g. the type of person he/she is)
2) The issue that we had the conflict over is not likely to change
3) The issue that we had the conflict over affects other parts of our relationship
4) My roommate intentionally meant to have the conflict, rather than unintentionally
5) My roommate was motivated by his/her own selfish concerns
6) My roommate deserves to be blamed for the conflict

CONFLICT STRATEGIES

Now think about what happened DURING the conflict. Rate each of the following statements using the scale provided. Please indicate <u>how you acted in the following ways DURING the conflict.</u>

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1) I tried to postpone dealing with the issue as long as possible
2) I avoided being around my roommate to avoid dealing with the issue
3) I tried to ignore the issue
4) I stopped talking as much with my roommate in order to avoid dealing with the issue
5) I tried to let the issue resolve itself
6) Instead of directly talking about the issue, I tried to understand where my roommate was coming from
7) I tried to set an example with my behavior so my roommate would observe and imitate me
8) I denied that there was a problem or conflict
9) I dismissed the issue as unimportant
10) I tried to use humor to avoid directly talking about the issue
11) I tried to explain to my roommate why the issue wasn't a big deal
12) I avoided talking about the issue
13) I thought the issue wasn't worth arguing over
14) I tried to distract my roommate from the issue
15) I tried to change the subject
16) I changed the topic of discussion
17) I focused on how we were arguing rather than what we were arguing about
18) I tried to hint at my feelings through indirect comments
19) I tried to deal with the problem jokingly so that my irritation was not disclosed
20) I sought a solution that would be mutually beneficial
21) I explored possible solutions with my roommate
22) I was willing to accept alternative solutions to the problem

23) I tried to think of the best solution for both of us
24) I asked my roommate about his/her thoughts and feelings
25) I tried to understand my roommate's point of view
26) I tried to provide information to help increase my roommate's understanding of my perspective
27) I asked my roommate for information about his/her perspective to help increase my understanding
28) I accepted my fair share of responsibility for the conflict
29) I openly acknowledged mistakes I made
30) I sacrificed some of my individual goals for the sake of our relationship goals
31) I compromised with my roommate
32) I decided the relationship was more important than what I individually wanted
33) I was sympathetic to my roommate's position
34) I demonstrated concern about my roommate's thoughts and feelings
35) I listened closely to what my roommate had to say
36) I validated my roommate's thoughts and feelings
37) I used humor to try to make my roommate feel better
38) I showed my roommate that I had lost my temper
39) I raised my voice at my roommate
40) I criticized my roommate's behavior
41) I criticized a part of my roommate's personality
42) I blamed the conflict on an aspect of who my roommate is
43) I told my roommate it was his/her fault that there was a conflict
44) I made threats towards my roommate
45) I tried to intimidate my roommate
46) I insulted my roommate
47) I cursed at my roommate
48) I tried to establish dominance over my roommate
49) I dismissed my roommate's perspective out-of-hand
50) I used sarcasm to indicate frustration with my roommate
51) I tease my roommate
52) I told my roommate that he/she needed to change his/her behavior
53) I told my roommate how to behave in the future
54) I tried to persuade my roommate to comply with my wishes

APPENDIX H

PERCEIVED ROOMMATE BEHAVIOR

These next statements ask you to recall the actual behavior of your roommate during the conflict. Indicate your level of agreement with each behavior.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

1) My roommate's eye contact was more hostile than normal
2) I felt like my roommate was glaring at me
3) My roommate avoided looking at me in the eyes
4) My roommate showed his/her displeasure with how he/she looked at me
5) My roommate didn't look at me like he/she normally does
6) My roommate rolled his/her eyes at times while we were talking
7) My roommate spoke louder than normal
8) My roommate raised his/her voice when talking to me
9) My roommate tried to raise his/her voice to make a point
10) I felt like my roommate was shouting at me at times
11) It bothered me how loud my roommate was during the conflict
12) I detected hostility in my roommate's tone of voice
13) My roommate's tone of voice was critical
14) I wish my roommate had spoken to me differently
15) My roommate was really disrespectful in how he/she talked to me
16) I didn't like how my roommate spoke to me
17) My roommate tried to create more physical space between us during the conflict
18) I felt like my roommate was physically distant from me
19) My roommate seemed closed off from me
20) I didn't feel like my roommate was very approachable
21) My roommate seemed farther away from me than normal

APPENDIX I

EMOTIONS – THE POSITIVE AND NEGATIVE AFFECT SCHEDULE (PANAS) SCALE

The instrument presented here contains a list of emotions that you may have felt during the conflict. Please rate each emotion based on how strongly you felt it.

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely

1) Interested
2) Distressed
3) Optimistic
4) Upset
5) Guilty
6) Scared
7) Hostile
8) Satisfied
9) Calm
10) Irritated
11) Alert
12) Ashamed
13) Sympathetic
14) Nervous
15) Determined
16) Attentive
17) Jittery
18) Active
19) Afraid
20) Frustrated
21) Angry
22) Relieved

IRB APPROVAL LETTER

Hi Chris,

This project has been approved as exempt category 2.

Thanks,

Jody-Lynn

Jody-Lynn Berg

Research Compliance Coordinator

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-----Original Message-----

From: Chris Geyer [mailto:no-reply@irbnet.org]

Sent: Thursday, April 21, 2011 10:55 AM

To: Simpers, Clara; Peloso, Elizabeth; Berg, Jody-Lynn

Subject: IRBNet Submission

Please note that the following has been submitted for review on IRBNet:

Project Title: [235265-1] Understanding Destructive Conflict: The Role of Projection in

Maladaptive Attributions and Selection of Conflict Strategies

Principal Investigator: Chris Geyer

Submission Type: New Project

Submitted To: University of Delaware IRB

Submitted By: Chris Geyer

Date Submitted: April 21, 2011

Should you have any questions you may contact Chris Geyer at cdggeyer@udel.edu.

Thank you,

The IRBNet Support Team

www.irbnet.org